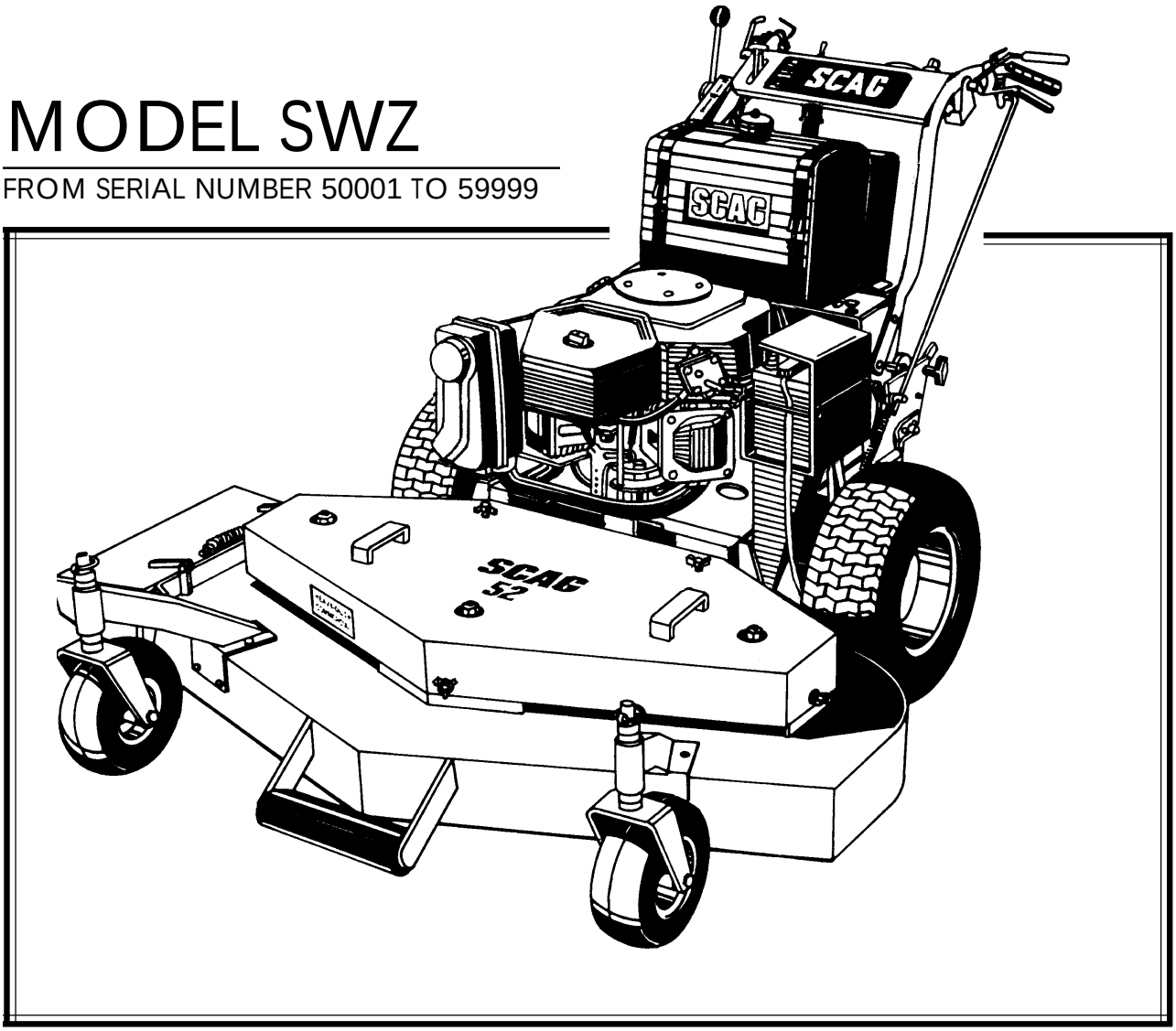
SCAG
POWER EQUIPMENT

OPERATOR'S MANUAL

MODEL SWZ

FROM SERIAL NUMBER 50001 TO 59999



PART 03010

PLEASE BE CAREFUL !

* Keep all shields in place, especially the grass discharge chute.
* Before performing any maintenance or service, stop the machine and remove the spark plug wires.
* If a mechanism becomes clogged, stop the engine before cleaning.
* Keep hands, feet and clothing away from power-driven parts.

REMEMBER - YOUR MOWER IS ONLY AS SAFE AS THE OPERATOR!

FAILURE TO FOLLOW SAFE OPERATING PRACTICES MAY RESULT IN SERIOUS INJURY.

This manual covers the operating instructions and illustrated parts list for:

All SWZ model machines with a serial number of 00050001- 00059999

The serial number is the 8 digit number listed on the serial number tag mounted to the engine deck.

SCAG®
POWER EQUIPMENT

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Your mower was built to the highest standards in the industry. However, your mower is only as safe as the operator. Carelessness or operator error may result in serious bodily injury or death. Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance, and storage of the equipment. Make sure every operator is properly trained and thoroughly familiar with all of the controls before operating the equipment.

- Scag Power Equipment -

GENERAL SAFETY INSTRUCTIONS

- **READ THIS OPERATOR'S MANUAL** and instructions furnished with attachments.
- A replacement manual is available from your authorized Scag Service Dealer or by contacting Scag Power Equipment, Service Department at P.O. Box 152, Mayville, WI 53050. Please indicate the complete model number and serial number of your Scag product.
- Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an authorized Scag dealer. To ensure optimum performance and safety, always purchase genuine Scag replacement parts and accessories. **NEVER** use "WILL FIT" replacement parts and accessories made by another manufacturer. **THE USE OF UNAPPROVED REPLACEMENT PARTS OR ACCESSORIES COULD VOID THE WARRANTY.**

EQUIPMENT SAFETY

- Know the controls and how to stop quickly.
- Clear the work area of objects (wires, rocks, etc.) that might be picked up and thrown.
- Disengage power to attachments when transporting or not in use.
- **DO NOT** change the engine governor settings or overspeed the engine.
- Take all possible precautions when leaving the machine unattended, such as disengaging the mower PTO engagement switch, stopping the engine, and removing the key.
- Keep the machine and attachments in good operating condition, and keep safety devices and shields in place and in working condition.
- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- **NEVER** store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
- The machine and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.
- The discharge chute must be installed and in the down position on the side discharge mower except when optional grass catcher is completely installed. If the mower discharge ever plugs, shut the engine off and wait for all movement to stop before removing obstruction.
- Clean grass, leaves, and lubricant spills from surfaces after use to prevent spontaneous combustion.

OPERATOR SAFETY

- **NEVER** operate the machine without approved ventilation. Exhaust fumes are dangerous. **DO NOT** run the engine indoors.

- **DO NOT** allow children to operate the machine. Do not allow adults to operate the machine without proper instruction.

- **DO NOT** mow when children and others are around. When using any attachments, never direct the discharge of material toward bystanders nor allow anyone near the machine while in operation.

- Before attempting to start the engine, follow all starting instructions.

- **BEFORE** leaving the operator's position, disengage power to attachments.

- Before making any repairs or adjustments, disengage power to attachments. **STOP THE ENGINE AND REMOVE KEY.**

- **DO NOT** operate the machine while wearing sandals, tennis shoes, sneakers or shorts. Always wear long pants and substantial shoes. **NEVER** wear loose fitting clothing which could get caught in moving parts. Wearing safety glasses and safety shoes is advisable and required by some local ordinances and insurance regulations.

- Do not stop or start suddenly. **WHEN OPERATING ON A SLOPE, TRAVEL ACROSS THE GRADE, WHENEVER POSSIBLE, NEVER UP OR DOWN.**

- Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing direction on slopes.

- Stay alert for holes, rocks, and roots in the terrain and other hidden hazards. Keep away from drop-offs.

- Watch out for traffic when crossing roads or operating near roadways.

- Handle gasoline with care - it is highly flammable

- Use an approved gasoline container. Never remove the fuel cap or add gasoline to a running or hot engine or an engine that has not been allowed to cool for several minutes after running. Never fill the tank indoors and always clean up spilled gasoline.

- When using the mower, proceed as follows:

  1. Mow only in daylight or in good artificial light.

  2. Never make a cutting height adjustment while the engine is running.

  3. Shut the engine off and remove key when removing the grass catcher or unclogging chute.

  4. Check the blade mounting bolts for proper tightness at frequent intervals.

- Do not touch engine or muffler while engine is running or soon after it is stopped. These areas could be hot enough to cause a burn.

- Only use Scag approved riding attachments.
  Scag Approved Attachments:
  RS-ZT
  Using unapproved attachments, (especially "stand-up" riding attachments) may be hazardous.

WARNING:
DO NOT operate on steep slopes. Reduce speed and use extreme caution. ALWAYS FOLLOW OSHA-APPROVED OPERATION.

HYDRAULIC SAFETY

- Keep body and hands away from pin holes or nozzles that eject hydraulic fluid under high pressure. Use paper or cardboard and not hands to search for leaks.
- Hydraulic fluid escaping under high pressure may have sufficient force to penetrate skin and cause serious injury. If foreign fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.
- Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before starting the machine.
- Hydraulic fluid is under high pressure. If you need service on your hydraulic system, please see your authorized Scag dealer.

INITIAL RUN-IN

First Day of Use or approximately 10 hours.

- ✓ Check for proper operation of the safety interlocks.
- ✓ Check belts for proper tension at 2, 4 and 8 hours; adjust as needed.
- ✓ Check speed control neutral adjustment. Adjust if necessary, *(see Adjustments, page 9)* so that engine will not start unless speed control lever is in neutral and blade clutch is disengaged.
- ✓ Check steering control neutral and adjust, if needed, as indicated in the Adjustments Section.
- ✓ Check tires for proper pressure *(see Adjustments, page 9).*
- ✓ Check for loose hardware. Tighten as needed.
- ✓ Grease machine fittings:
  - 2 caster wheel bearings
  - 2 caster wheel pivots
  - 2 or 3 spindles (bearings)
  - 1 or 2 deck idler pivot arms
  - 1 engine idler arm pivot
  - 2 speed control shafts
  - 2 neutral cam weldments
  - 2 pivot weldments, pump control

BEFORE STARTING

✓ Check belts for:

- Proper tension
- Fraying and wear
- Twisting
- Cracking

✓ Check initial tension of the cutter blade drive belts. If belts are not properly tensioned, see Adjustments, page 6&7.

✓ Check oil levels in the engine and hydraulic reservoir.

✓ Fill the fuel tank with clean, fresh lead-free gasoline.

-NOTE-

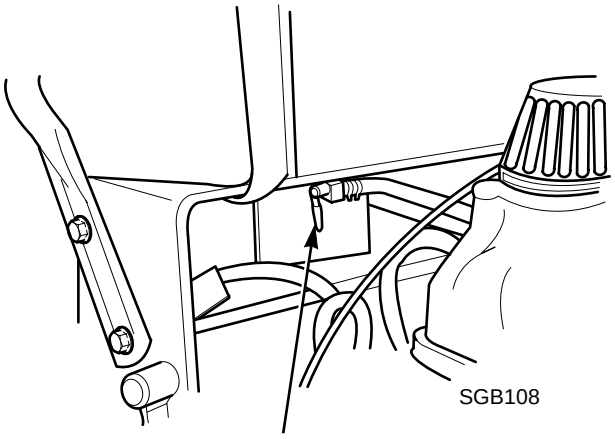
*For best engine performance, **SCAG** recommends using gasoline with an octane rating no less than 87.*

-NOTE-

Read and understand the instructions on safety before attempting to operate the mower.

TO START ENGINE

1. Open the fuel valve.



Fuel Valve
(Open position is Down)

2. Pull speed control lever to NEUTRAL position.

3. Pull the mower PTO engagement switch down to STOP position.

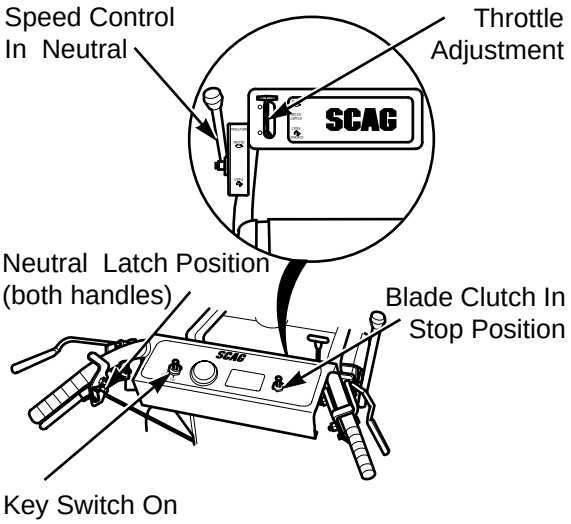
-NOTE-

Neutral latches must be in NEUTRAL LOCK position for startup.

4. Turn key switch on.

-NOTE-

Some engines are recoil start models, others are electric; manual choke locations will vary.

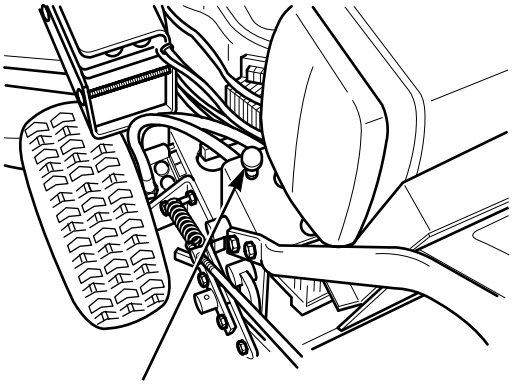


Starting Engine

SGB104

TO START ENGINE - cont'd

5. Start engine and choke as required. Adjust throttle to desired engine speed.



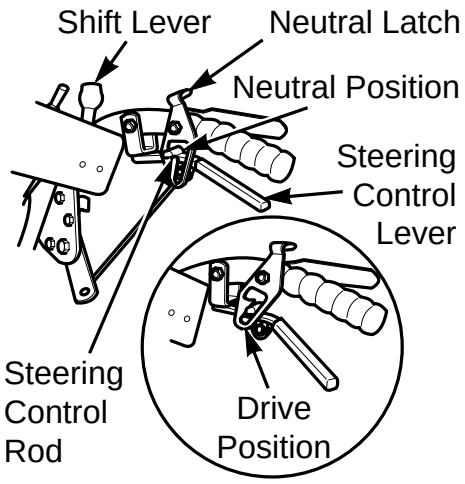
Kohler And Briggs & Stratton

6. Pull out and push up the mower PTO engagement switch to engage the cutter deck.

MOWER OPERATION

-NOTE-

If you are not familiar with the operation of the hydrostatic drive and zero turn feature, practice turning and maneuvering with the hand controls before engaging the blades.



1. With steering control lever in neutral, move the speed control lever into the first notch from the neutral position for initial operation.

2. While squeezing steering control levers with both hands, release both neutral latches. When steering control levers are released into drive position, mower will travel straight.

-NOTE-

The zero turn feature is shown by squeezing up full on one steering control lever while releasing the other. The wheel on the side the lever is squeezed, will turn in reverse.

3. To make a right turn, squeeze up on the RH lever; to turn left, squeeze up on the LH lever.

4. Shift speed control lever for desired mowing speed.

-NOTE-

Top speed is suggested only for transport!

5. TO STOP wheel drive, squeeze both steering levers to the neutral position and lock with the neutral latch. Then move speed control lever to neutral position.

-NOTE-

Be sure area is clear before backing up.

6. To move the machine in reverse, squeeze up on both steering control levers.

7. When operating on a slope, travel across the grade, never up and down.

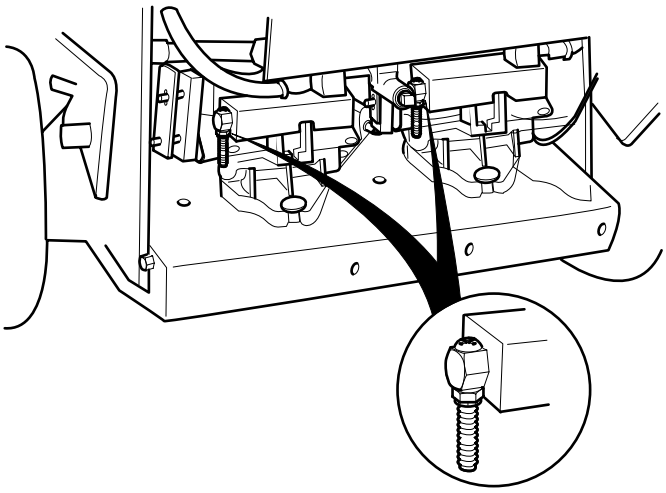
8. Before turning the engine off, be certain the blade clutch switch is in the OFF position, neutral latches are in NEUTRAL position, and speed control lever is in NEUTRAL.

AFTER OPERATION

1. Shut off engine.

2. Recheck cutter drive belts for proper tension, alignment, and any signs of rubbing. Correct and adjust as necessary.

   To "freewheel" or move the mower around without the engine running, rotate both dump valve levers located at the back of the pumps to "freewheel" positions, approximately 1/2 a turn *(see figure below*). Levers must be returned to original position to operate the mower.



Dump Valve Levers (normal position)

SGB112

-NOTE-

Bolts will not always be in this position. To close the dump valve, rotate until bolt stops.

ADJUSTMENTS

CAUTION:

Stop engine and remove key from ignition before making any adjustments. Wait for all moving parts to come to a complete stop before beginning work.

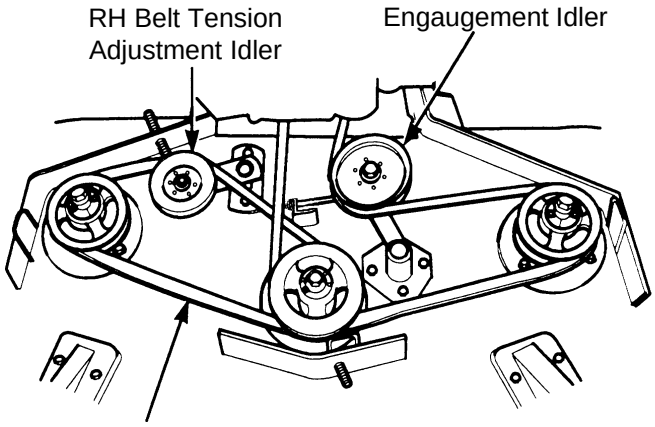
BELT TENSION

-NOTE-

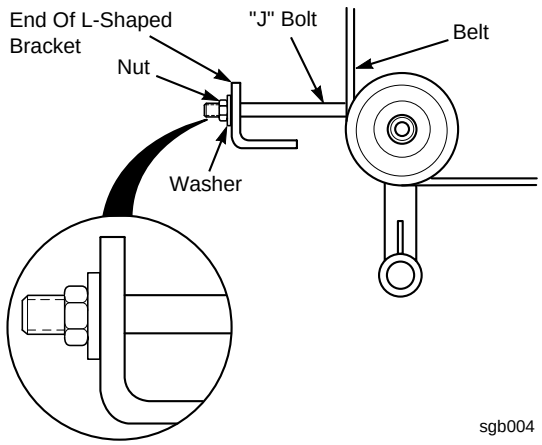
The Hydro Drive Belt is spring-loaded and does not require adjustment.

To adjust the cutter deck drive and blade belts:

1. Remove the belt cover.



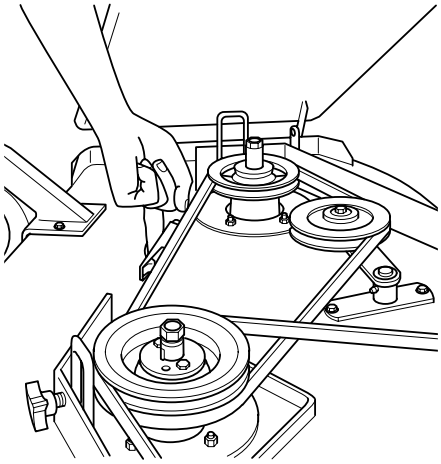
2. To adjust the cutter deck drive belt: Adjust the nut so that the belt moves 1/2" with 10 pounds of pressure. *(See figure below)*.



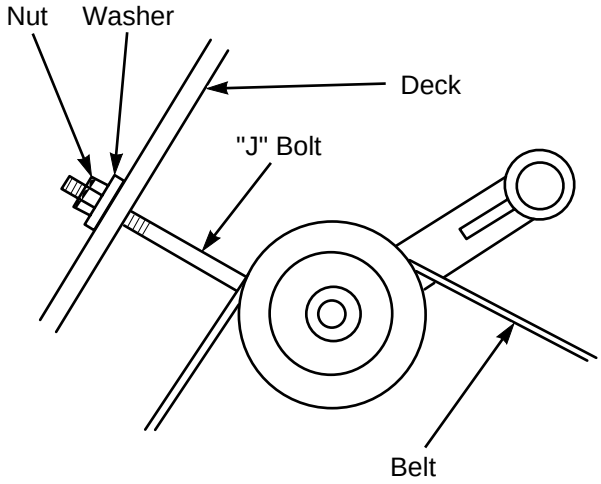
Cutter Deck Drive Belt Tension Alignment-Idler - L.H.

ADJUSTMENTS (cont'd)

3. To adjust the blade drive belt: Using a belt tension gauge, check the belt tension so that the belt moves 1/2" with 10 pounds of pressure.



Adjust the tension by tightening or loosening the J-bolt.



Belt Tension Adjustment - Idler, R.H.

4. Replace the belt covers.

BELT ALIGNMENT

Belt alignment is important for proper performance of your Scag mower. If you experience frequent belt wear or breakage, see your authorized Scag service dealer for belt adjustment.

CUTTER DECK ADJUSTMENTS

Due to the many conditions that exist, it is difficult to suggest a setting that will work for every lawn. There are, however, two adjustments that should be made on the cutter deck: pitch and height.

PITCH is the angle of the blades (comparing front to rear). A 1/4" downward pitch (front of deck down) is recommended for better cutting performance.

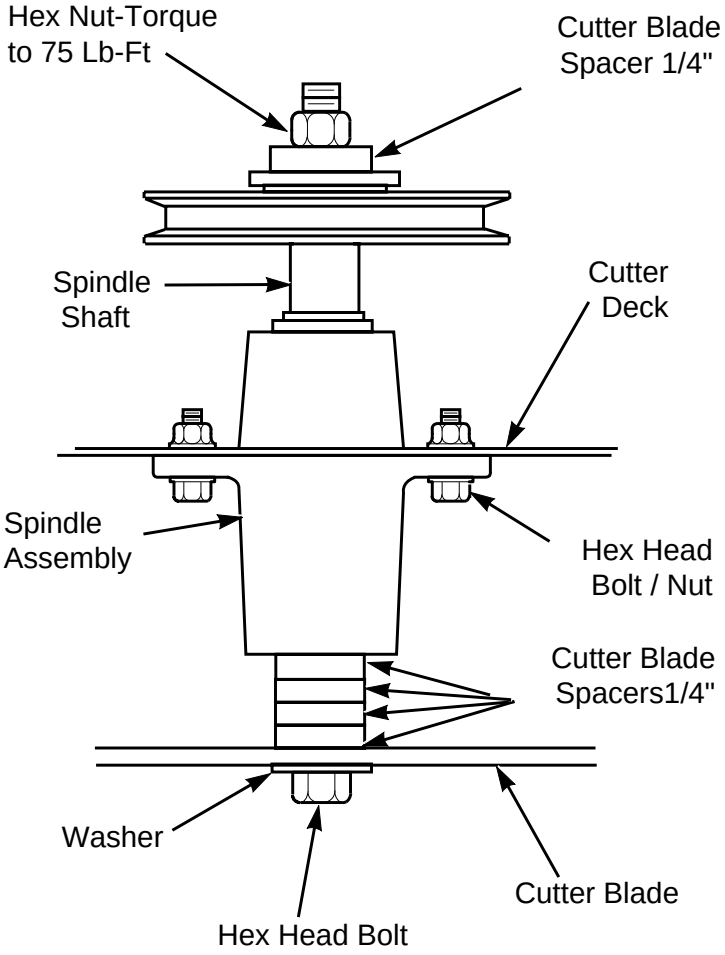
HEIGHT is the nominal distance that the blade is off the ground. This measurement is made with the blades pointed side to side and distance is measured between cutting tip and ground.

Adjusting the blade height can be done by moving any number of the five smaller spacers on the blade mounting bolts to the top of the spindle shaft or below the spindle shaft. All blades should be positioned equally *(see Spindle Illustration, p. 8).*

ADJUSTMENTS (cont'd)

TAPERED BEARING SPINDLE ASSEMBLY

The cutter deck is shipped with one spacer on top of spindle and four underneath *(see figure below)*.

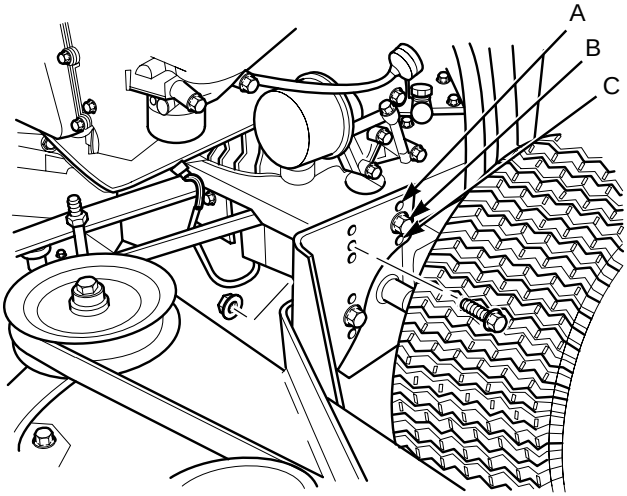


-NOTE-

For best results, keep the cutter deck high in relation to the engine deck and the blades low in the cutter deck; ie. 3 or 4 spacers below the spindle shaft.

Additional range to the cutting height can be achieved by repositioning the cutter deck in relationship to the engine deck. This adjustment also effects the pitch of the deck. There are three positions for mounting the cutter deck *(see figure following column)*.

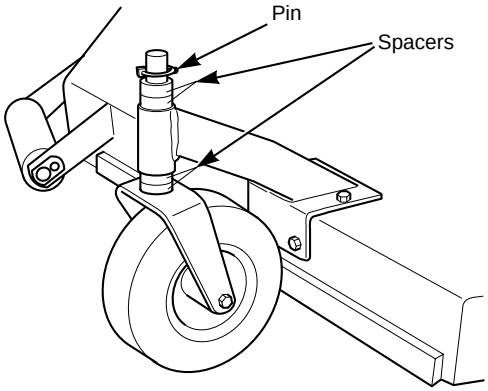
For cutting in the lowest position, mount the cutter deck in the top hole (A). For cutting in the highest position, mount the deck in the lowest hole (C). Setting the cutter deck height will be determined by the type of cutting conditions.



Repositioning The Cutter Deck

Caster spacers also can be repositioned to change cutting heights and to change the pitch of the deck *(see figure below)*.

To adjust caster spacers, raise the deck and remove pin and caster wheel. Reposition caster spacers as needed then replace caster, top spacers and pin. Make the same adjustments on the other caster wheel.



Repositioning Caster Spacers

ADJUSTMENTS (cont'd)

BLADE HEIGHT ADJUSTMENT

-Note-

For best cut and discharge a minimum of three spacers should be between the blade and spindle. (see page 8)

TIRE PRESSURES

Caster Wheels	25 PSI
Drive Wheels	15 PSI

NEUTRAL ADJUSTMENT

-NOTE-

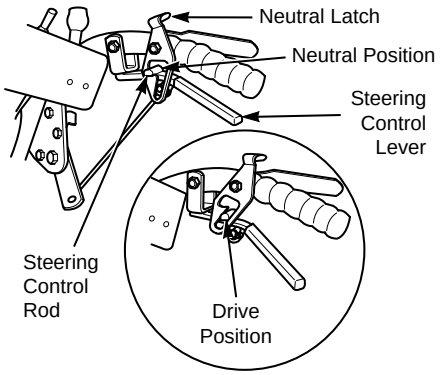
This is the only adjustment to properly set neutral.

1. Move the mower to a secure area away from bystanders and preferably, facing a wall. Raise the drive wheels off the ground. Block caster wheels.

⚠ CAUTION

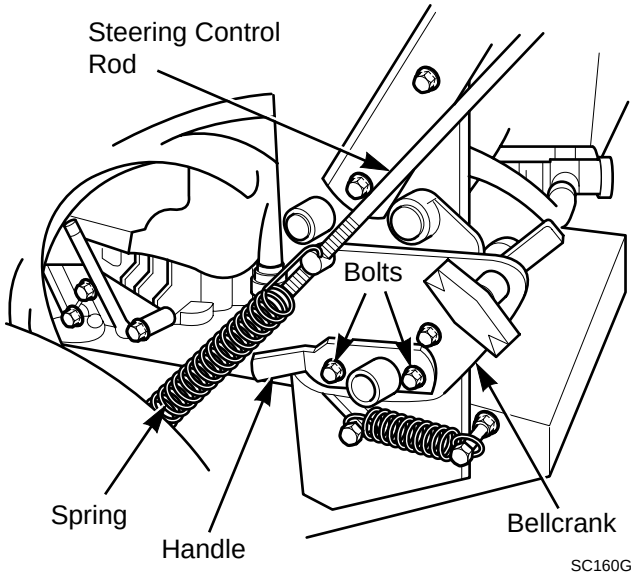
Do not try to adjust neutral with the speed control rods or the speed adjustment cam.

2. Remove the speed control spring and the steering control rod from the machine by removing the hairpin at the swivel and at the handle. *(See figure below).*



3. Start engine and let it warm up for a few minutes.

4. Loosen the wing nut and let the speed adjustment bearing lever fall away from the cam.



NEUTRAL ADJUSTMENT

5. Observe the drive wheels. If they rotate, loosen the bolts on the neutral adjustment handle and move the handle up or down until the wheels are in neutral (up for reverse and down for forward). (See figure above).

6. Tighten the bolts on the neutral adjustment handle. When tightening the bolts, hold the bellcrank to prevent it from rotating and throwing off the neutral adjustment.

7. Turn off engine.

STEERING CONTROL ROD ADJUSTMENT

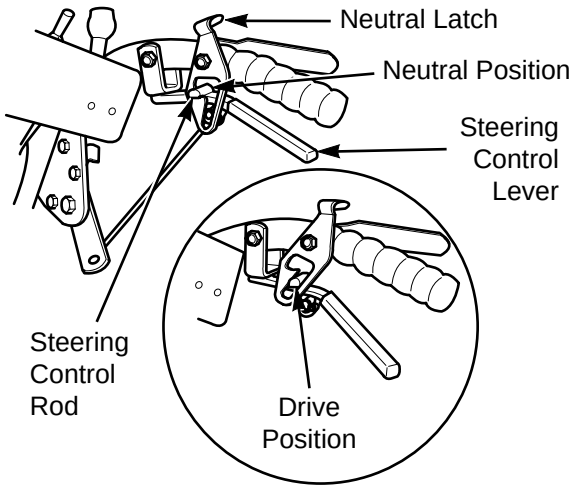
-NOTE-

This adjustment is made to allow the steering control lever to be moved out of the neutral latch without engaging reverse.

1. Connect BOTH steering control rods into the steering control lever up on the handles. Do not install the hair pin through the rod at this time.

2. Put the steering control lever control rod into the neutral latch. *(See figure on page 10).*

ADJUSTMENTS (cont'd)



3. Turn the swivel joint on the steering control rod until the swivel joint lines up in the center of the slot in the bellcrank. This will allow the control rod to be moved back when shifting out of neutral and not move the bellcrank.

4. Remove the steering control rod from the mower. Install the speed control spring onto the swivel joint and then connect the control rod back to the machine.

-NOTE-

Make sure that the swivel joint does not turn on the control rod while you are doing this.

5. Install the hair pins into the control rod up at the handle and into the swivel joint.

TRACKING STRAIGHT ADJUSTMENT

-NOTE-

Before making this adjustment be sure that the tire pressure has been checked and that it is correct. (See page 9)

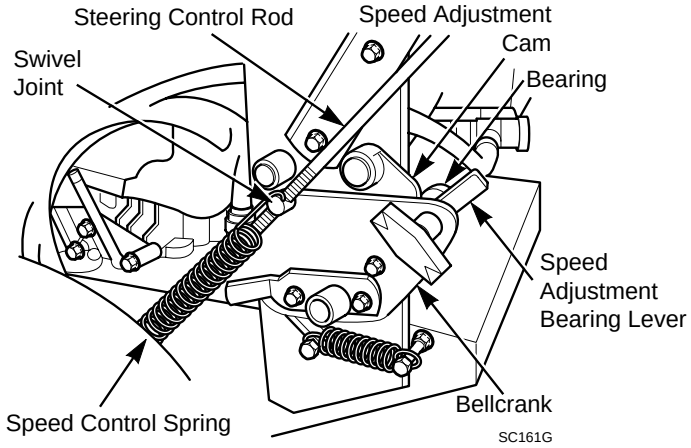
-NOTE-

This adjustment will allow the machine to travel in a straight line at the normal operating speed.

-NOTE-

Make sure that the adjustments on page 9 have been completed, the neutral latch is engaged and that the speed shift lever is in neutral.

1. Place the speed adjustment bearing lever where the bearing just contacts the speed adjustment cam. *(See figure below).*



4. Tighten the wing nut securing the speed adjustment bearing lever and repeat on other side.

5. Put the machine on a flat level surface (preferably on grass) and start engine.

6. Place speed adjustment hand lever into the forward speed used most often and see if machine tracks straight.

7. If machine pulls to one side, put the speed adjustment hand lever back into neutral and shut off engine.

⚠ WARNING:

Never move the bearing forward beyond just touching the cam, or reverse will be engaged unintentionally.

8. If the machine pulls to the left, on the left side of the bell crank, loosen the wing nut and move the adjustment bearing lever 1/16" away from the cam and retighten the bolts. Restart engine and check tracking.

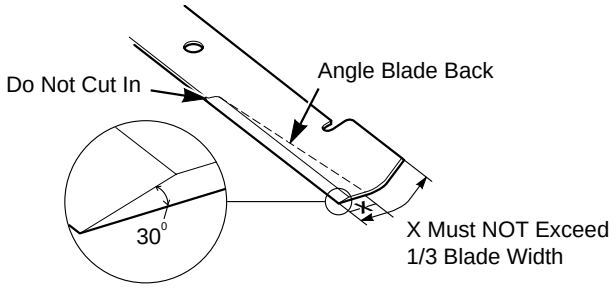
ADJUSTMENTS (cont'd)

9. The farther the adjustment bearing lever is moved away from the cam, the faster that side will drive. Continue adjusting the bearing lever until the mower tracks in a straight line.

10. Conversely, if the machine turns to the right, adjust the right bearing lever away from the cam.

11. Contact your Scag servicing dealer if you cannot adjust the tracking properly.

CUTTER BLADES



Do not sharpen beyond 1/3 of the width of the blade.

Suggestion: Dress the blade with a file. Using a wheel grinder may burn the blade. Check the balance of the blade. If blades are out of balance, vibration and premature wear can occur. See your authorized Scag dealer for blade balance tools.

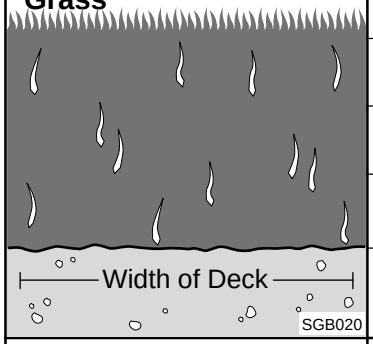
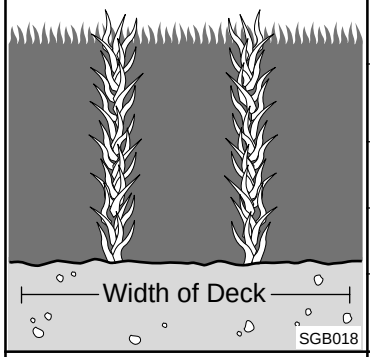
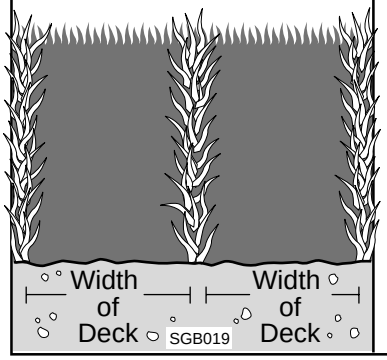
LUBRICATION & MAINTENANCE

Break-In (1st 10 Hours)	8 Hours (Daily)	40 Hours (Weekly)	100 Hours (Biweekly)	200 Hours (Monthly)	PROCEDURE	COMMENTS
X					Check all hardware for proper tightness	
X					Change engine oil and filter at 5 hours	
X					Check hydrostatic oil filter at 20 hours	Add oil as needed - SAE 10W30
X					Check belts for proper adjustment	Check after 2,4,8 hours of running
	X				Check engine oil	Do not over fill
	X				Clean blower screen	MORE OFTEN IF NEEDED
	X				Remove debris from under belt cover	MORE OFTEN IF NEEDED
	X				Sharpen cutter blades	MORE OFTEN IF NEEDED
	X				Grease spindle bearings *	+ US Lithium MP White Grease 2125
	X				Clean air filter	MORE OFTEN IF NEEDED
		X			Check battery acid level	Distilled water only
		X			Check tire pressure	Add or adjust as needed
			X		Grease caster wheel bearings	Chassis grease
			X		Grease caster wheel pivots	Chassis grease
			X		Grease idler arm pivots	Chassis grease
			X		Change engine oil and filter	See engine manufacturer information
			X		Replace air filter	MORE OFTEN IF NEEDED
				X	Check all hardware for proper tightness	
				X	Clean and adjust spark plugs	See engine mfg. information
				X	Drain Hydraulic System and replace fluid	Use SAE 10W30 motor oil
				X	Change hydrostatic oil filter	Clean area before removing filter

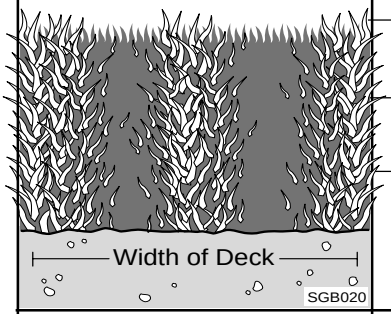
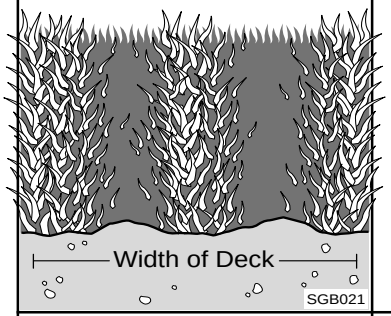
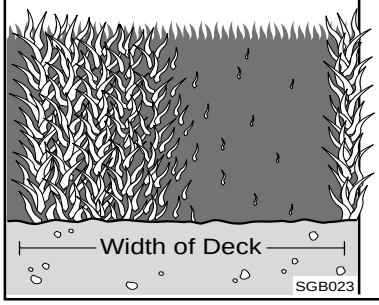
* Depending on climate and environment, lubrication may be required every 8 to 40 hours.
Grease spindle until grease comes out the grease relief valve.

\+ Compatible Greases: US Lithium MP White Grease 2125
Mobilux #2 found at Mobil Service Stations
Ronex MP found at Exxon Service Stations
Super Lube MEP #2 & Super Stay-M #2 found at Conoco Service Stations
Shell Alvania #2 found at Shell Service Stations
Lidok EP #2 found at industrial shops

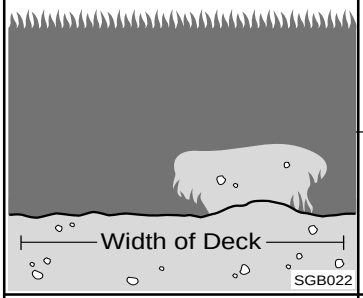
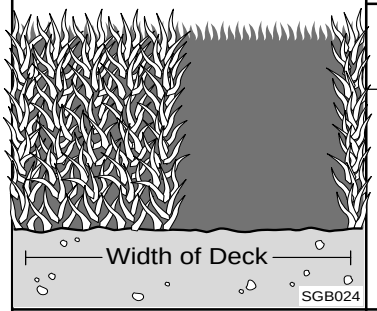
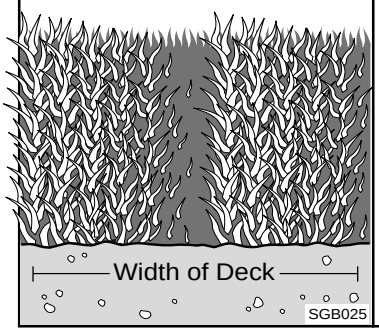
TROUBLESHOOTING CUTTING CONDITIONS

CONDITION	CAUSE	CURE
Stringers - Occasional Blades of Uncut Grass 	Low engine RPM	Run engine at full 3600 RPM
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Dull blades, incorrect sharpening	Sharpen blades
	Deck plugged, grass accumulation	Clean underside of deck
	Belt slipping	Adjust belt tension
Streaking - Strips of Uncut Grass in Cutting Path 	Dull, worn blades	Sharpen blades
	Incorrect blade sharpening	Sharpen blades
	Low engine RPM	Run engine at full 3600 RPM
	Belt slipping	Adjust belt tension
	Deck plugged, grass accumulation	Clean underside of deck
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Bent blades	Replace blades
Streaking - Strips of Uncut Grass Between Cutting Paths 	Not enough overlapping between rows	Increase the overlap of each pass

TROUBLESHOOTING

CONDITION	CAUSE	CURE
Uneven Cut on Flat Ground - Wavy High-Low Appearance, Scalloped Cut, or Rough Contour 	Lift worn off of blade	Replace blade
	Blade upside down	Mount with cutting edge toward ground
	Deck plugged, grass accumulation	Clean underside of deck
	Too much blade angle (deck pitch)	Adjust pitch and level
	Deck mounted improperly	See your authorized SCAG dealer
	Bent spindle area	See your authorized SCAG dealer
	Dull blade	Sharpen blade
Uneven Cut on Uneven Ground - Wavy Appearance, High-Low Scalloped Cut, or Rough Contour 	Uneven ground	May need to reduce ground speed, raise cutting height, and/or change direction of cut
Sloping Ridge Across Width of Cutting Path 	Tire pressures not equal	Check and adjust tire pressure
	Wheels uneven	Check and adjust tire pressure
	Deck mounted incorrectly	See your authorized SCAG dealer

TROUBLESHOOTING

CONDITION	CAUSE	CURE
Scalping - Blades Hitting Dirt or Cutting Very Close to the Ground  SGB022	Low tire pressures	Check and adjust pressures
	Ground speed too fast	Slow speed to adjust for conditions
	Cutting too low	May need to reduce ground speed, raise cutting height, change direction of cut, and/or change pitch and level
	Rough terrain	May need to reduce ground speed, raise cutting height, and/or change direction of cut
	Wet grass	Cut grass after it has dried out
Step Cut Ridge in Center of Cutting Path  SGB024	Blades not mounted evenly	Adjust pitch and level
	Bent blade	Replace blade
	Internal spindle failure	See your authorized SCAG dealer
	Mounting of spindle incorrect	See your authorized SCAG dealer
Slope Cut - Sloping Ridges Across Width of Cutting Path  SGB025	Bent spindle mounting area	See your authorized SCAG dealer
	Internal spindle failure	See your authorized SCAG dealer
	Bent deck housing	See your authorized SCAG dealer

TECHNICAL SPECIFICATIONS

ENGINES

General Type:	Heavy duty industrial/commercial
Brand:	Kohler, Kawasaki, Briggs & Stratton
Models:	Kohler CV14T, CVE 20;Kaw. FC420V;B&S 303776, 350777
Horsepower:	Kohler 14HP& 20HP; Kaw. 14HP; B&S 16HP & 18HP
Type:	4 cycle gas, vertical shaft engines
Displacement:	Kohler: 14HP = 398cc, 20 HP= 624 cc Kawasaki: 14HP = 423cc B & S 16HP = 480 cc, 18HP = 570cc
Cylinders:	Varied - see manufacturer's specifications
Governor:	Mechanical type governor with variable speed control set at 3600 rpm (±75 rpm), idle set at 1200 rpm (±75 rpm)
Exhaust Group:	Single exhaust canister muffler
Fuel Pump Group:	Varied - See manufacturer's specifications
Oil Pump Group:	Varied - See manufacturer's specifications
Valve Group:	Varied - See manufacturer's specifications
Starter/Electrical:	Electronic Ignition with recoil starter or 12 volt battery with alternator, solid state ignition with key start
Charging System:	15 amp

ENGINE DECK

Thickness:	7 gauge steel
Fuel Tank:	5 gallon (19.0 litres) seamless polyethylene
Drive Wheels/Tires:	16x6.50-8 four-ply pneumatic tubeless, radius edge
Brakes:	Dynamic breaking through hydro drive system
Axles:	1" tapered
Handle Bars:	1-1/4" diameter

DRIVE SYSTEM

Type:	Hydro drive with two variable displacement pumps and two cast-iron high torque motors
Hydro Pumps:	Two Hydro-Gear Model BDP 10L pumps with dump valves for movement without running the engine
Drive Wheel Motors:	Two 12 cu. inch cast-iron high torque motors
Hydro Fluid Cooling Group:	Heavy-duty cooling radiator, 7 qt. capacity cooling reservoir, uses, SAE 10W30 fluid and 10 micron filter
Steering / Travel Control::	Independent handle controls for each wheel, squeeze to move from forward to neutral to reverse, neutral lock lever, speed range controlled with single lever (patented design), in-field tracking adjustment with no tools necessary
Dump Valves:	Allows for movement without engine running
Axles:	1" tapered motor shafts
Wire Harness:	14 gauge wire
Safety Group:	Handle actuated operator presence system (patented design), blade / clutch and transmission interlock to engine kill
Forward Speed Range:	0 to 7.4 mph
Reverse Speed Range:	0 to 3.0 mph

TECHNICAL SPECIFICATIONS (CON'T)

CUTTER DECKS

SWM 36, SWM 48, SWM 52, SWM 61, SWM 72

Type:	Out-front design with anti-scalp rollers
Construction:	SWM36,48: 7-gauge steel with 7-gauge (3/16") steel skirt SWM52,61,72:10-gauge steel with 7-gauge (3/16") steel skirt
Cutting Width:	35.5" (90.2 cm), 48.0 (122.0 cm), 52.0 " (132.0 cm), 61.0 " (155.0 cm), 71.5" (181.6 cm)
Cutting Height Adjustment:	Adjustable from 1-3/4" to 4-1/4" in 1/4" increments
Cutter Blades:	.204 thick, milled edge, 5150 alloy steel SWM 36: Two (2) 18" SWM 48: Three (3) 16.5" SWM 52: Three (3) 18" SWM 61: Three (3) 21" SM72: Three (3) 24" blades
Blade Engagement:	Electric blade brake clutch with instrument panel switch
Discharge Opening:	Extra wide 11.5", 13.75 " discharge opening with hinged chute
Caster Wheels:	9.4 x 3.5 smooth tread flotation, inner tubes, split rims, roller bearings, with quick pin removal
Spindles:	Cast housing, taper roller bearing, low maintenance with top access grease fitting and grease overfill relief poppet
Spindle Pulleys:	Cast-iron with easily removed taper hubs
Idler Pulley:	5" diameter pulley, welded and riveted construction, 1-3/8" O.D. Bearing
Idler Arm:	Heavy duty idler arm of 1/4" channel steel
Cutter Deck Belts:	B-section with Kevlar cord

ADDITIONAL SPECIFICATIONS

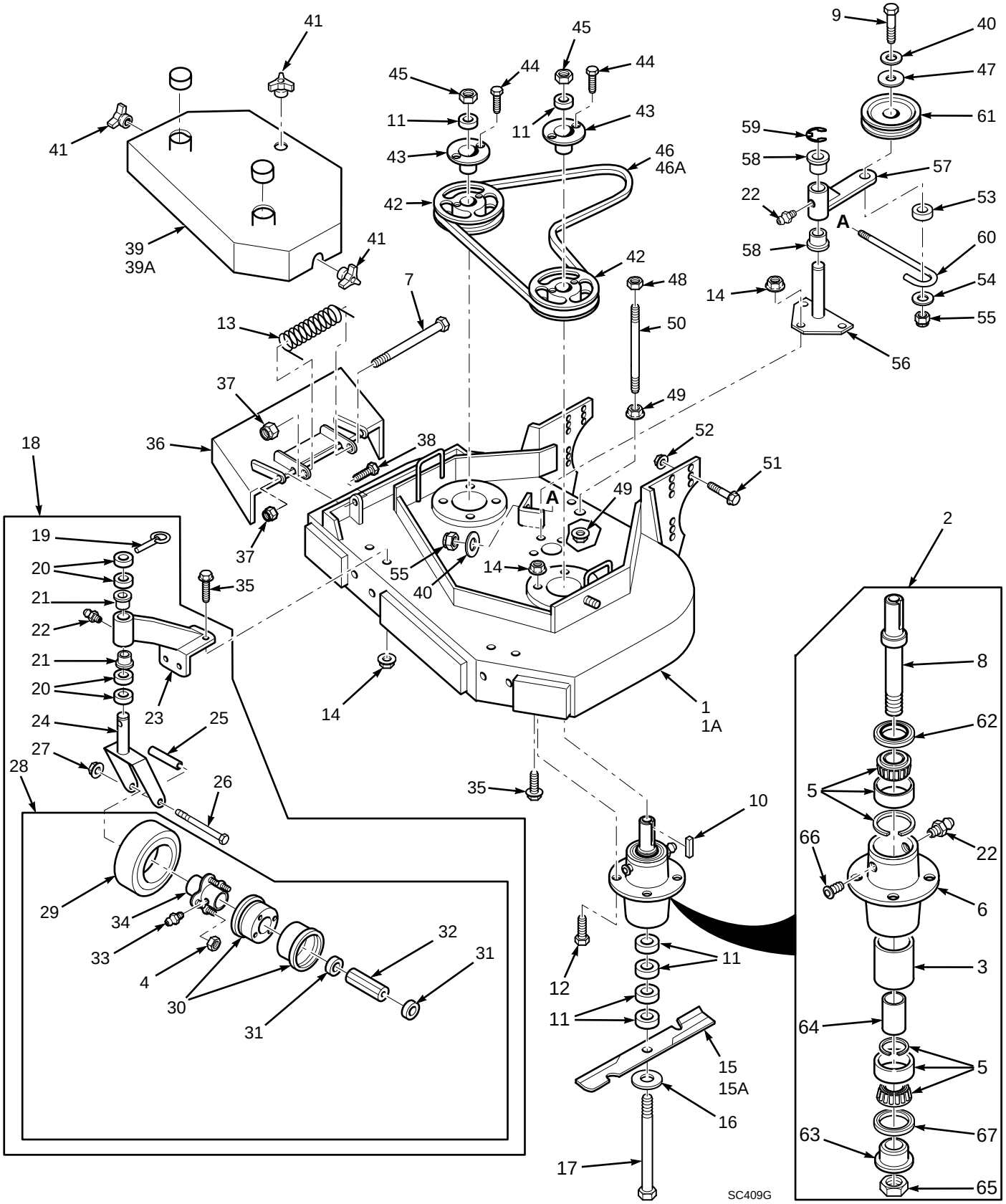
OPTIONAL ITEMS/ATTACHMENTS

Fabric Grass Catcher:	GC-F4 Grass Catcher with 4 cubic ft. capacity
Metal Grass Catcher:	GC-4D Grass Catcher with 4 cubic ft. capacity and rope pull dump or pick-up and dump
Steerable Sulky:	RS-ZT Steerable Sulky withpadded seat and full articulation for zero-radius turning
Mulching Plate:	Steel plate fits over discharge opening. No blade change or or removal required. Installs and removes in the field.

APPROXIMATE DIMENSIONS

	SWM36	SWM48	SWM52	SWM61	SWM72
Length:	74.0"	74.0"	74.0"	76.0"	76.0"
Length with Grass Catcher:	74.0"	74.0"	74.0"	76.0"	76.0"
Tracking Width:	37.0"	42.0"	42.0"	42.0"	42.0"
Width:	54.5"	60.0"	60.0"	70.0"	81.0"
Width (with discharge chute up):	37.5"	53.0"	53.0"	63.0"	74.0"
With with grass catcher:	55.0"	69.0"	69.0"	80.0"	91.0"
Height:	40.5"	40.5"	40.5"	40.5"	40.5"
Height with grass catcher:	40.5"	40.5"	40.5"	40.5"	40.5"
Weight	510 lbs.	550 lbs.	590 lbs.	625 lbs.	695lbs.
Weight with grass catcher:	550 lbs.	590 lbs.	630 lbs.	665lbs.	730 lbs.
Turning Radius:	Zero	Zero	Zero	Zero	Zero

36" CUTTER DECKS

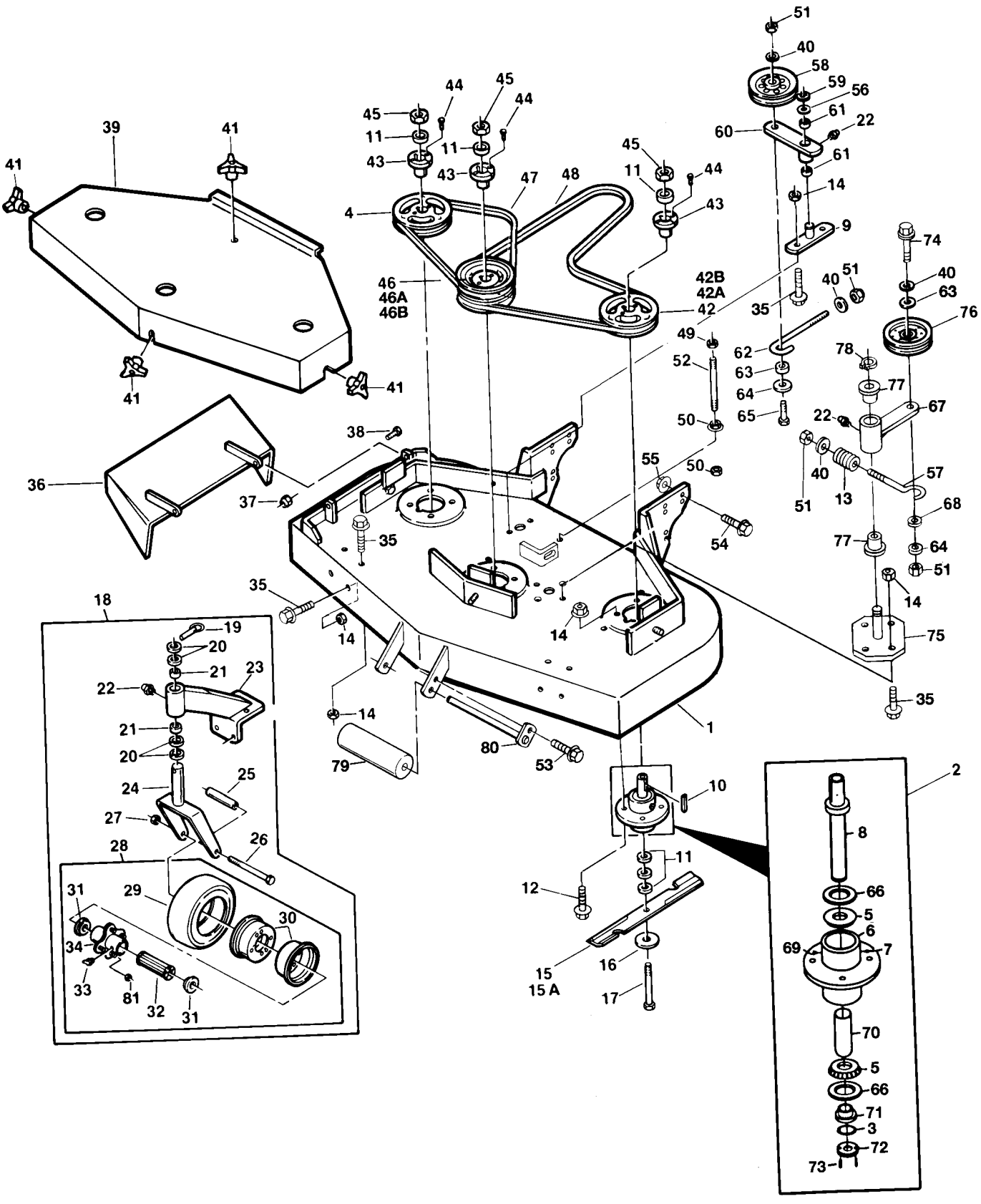


36" CUTTER DECKS

Ref. No.	Part Number	Description	32	36
1	46552	Cutter Deck (Includes Decals)	x	
1A	46553	Cutter Deck (Includes Decals)		x
2	46400	Cutter Spindle Assy.	x	x
3	04050-04	Retaining Ring, 1" Ext.-Inverted	x	x
4	48307-08	Tapered Nut, 5/16-24	x	x
5	48668	Tapered Bearing	x	x
6	41008	Spindle Housing	x	x
7	48114-02	Grease Fitting, Str., 5/16 Serrated	x	x
8	45391	Spindle Shaft	x	x
9	*	Hex Head Bolt, 3/8-16 x 3-1/2"	x	x
10	04063-08	Key, 1/4 x 1/4 x 2"	x	x
11	43278	Spacer, Cutter Blade - Small	x	x
12	04017-18	Capscrew, 5/16-18 x 1-1/4" Serrated Flange Hex Head	x	x
13	48807	Spring, Cutter Deck	x	x
14	04019-03	Nut 5/16-18 Serrated Flange	x	x
15	48110	Cutter Blade 16-1/2"	x	
15	48108	Cutter Blade, 18"		x
15A	48184	Cutter Blade 16 1/2 High Lift	x	
15A	48185	Cutter Blade, 18" High Lift		x
16	04040-10	Flatwasher, 5/8 W	x	x
17	04001-41	Hex Hd. Bolt, 5/8-11 x 9-1/2"	x	x
18	46079	Caster Assembly (Includes 19-28)	x	x
19	04066-01	Quick Pin	x	x
20	43037-01	Spacer, Caster Yoke, 1/2" long	x	x
21	48100-01	Bronze Bearing	x	x
22	48114-04	Grease Zerk	x	x
23	46082	Support Assembly (Includes 21-23)	x	x
24	45006	Caster Yoke	x	x
25	43022	Sleeve, Caster Wheel Bearing	x	x
26	04001-37	Hex Hd. Bolt, 1/2-13 x 5-1/2"	x	x
27	04021-07	Elastic Stop Nut, 1/2-13	x	x
28	48307	Wheel Assy. (Includes 4, 29-34)	x	x
29	48307-02	Tire Only Caster Wheel	x	x
NS	48006-03	Inner Tube only	x	x
30	48307-04	Rim Pair, Caster Wheel	x	x
31	48006-07	Retainer, Bearing, Caster Wheel	x	x
32	48006-06	Roller Bearing, Caster Wheel	x	x
33	48114-03	Grease Fitting, 45 degree 1/4-28	x	x
34	48006-05	Hub Assembly	x	x
35	04017-16	Capscrew, 5/16-18 x 3/4" Serrated Flange Hex Head	x	x
36	45100	Discharge Chute	x	x
37	*	Hex Nut, 5/16-18 Elastic Stop	x	x
38	*	Hex Hd Bolt, 5/16-18 x 1"	x	x
39	46085	Belt Cover Assy (Includes Decal)		x
39A	46157	Belt Cover Assy (Includes Decal)	x	
40	04041-07	Flat Washer, 3/8" Special	x	x
41	04029-03	Wing Nut, 3/8-16	x	x
42	48924	Pulley	x	x
43	48141	Tapered Hub	x	x
44	*	Hex Hd. Bolt, 1/4-20 x 3/4"		
45	*	Hex Nut, 5/8-11	x	x
46	48204	Belt, Blade Drive		x
46A	48278	Belt, Blade Drive	x	
47	43077	Spacer	x	x
48	*	Hex Nut, 3/8-16 Ctr Locknut	x	x
49	04019-04	Nut, 3/8-16 Serr Flange	x	x
50	04004-02	Support, Belt Cover	x	x
51	04017-42	Capscrew, 7/16-14 x 1" Serr Flange HH	x	x
52	04019-05	Nut, 7/16-14 Serr Flange	x	x
53	43277	Spacer, J-Hook	x	x
54	04041-12	Washer, 3/8 x 1-1/2 x 16 GA	x	x
55	04021-09	Elastic Stop Nut, 3/8-16	x	x
56	45423	Idler Pivot	x	x
57	46593	Idler Arm Assy. (Includes 22 & 58)	x	x
58	48100-02	Bronze Bearing	x	x
59	04050-05	Retaining Ring, 1-1/8" Ext. "E"	x	x
60	44101	J-Hook	x	x
61	48269	Idler Pulley, Belt Clutch	x	x
62	48681	Seal, Cutter Spindle	x	x
63	43217	Spindle Bushing	x	x
64	43218	Sleeve Cutter Spindle	x	x
65	48677	Relief Fitting, Cutter Spindle	x	x
66	*	Roll Pin, 1/8 X 1/2"	x	x
67	43201	Spacer, Large	x	x

* Common hardware which should be purchased locally. All bolts are Grade 5 plated, all other fasteners zinc plated.

48, 52, 61 & 72" CUTTER DECKS



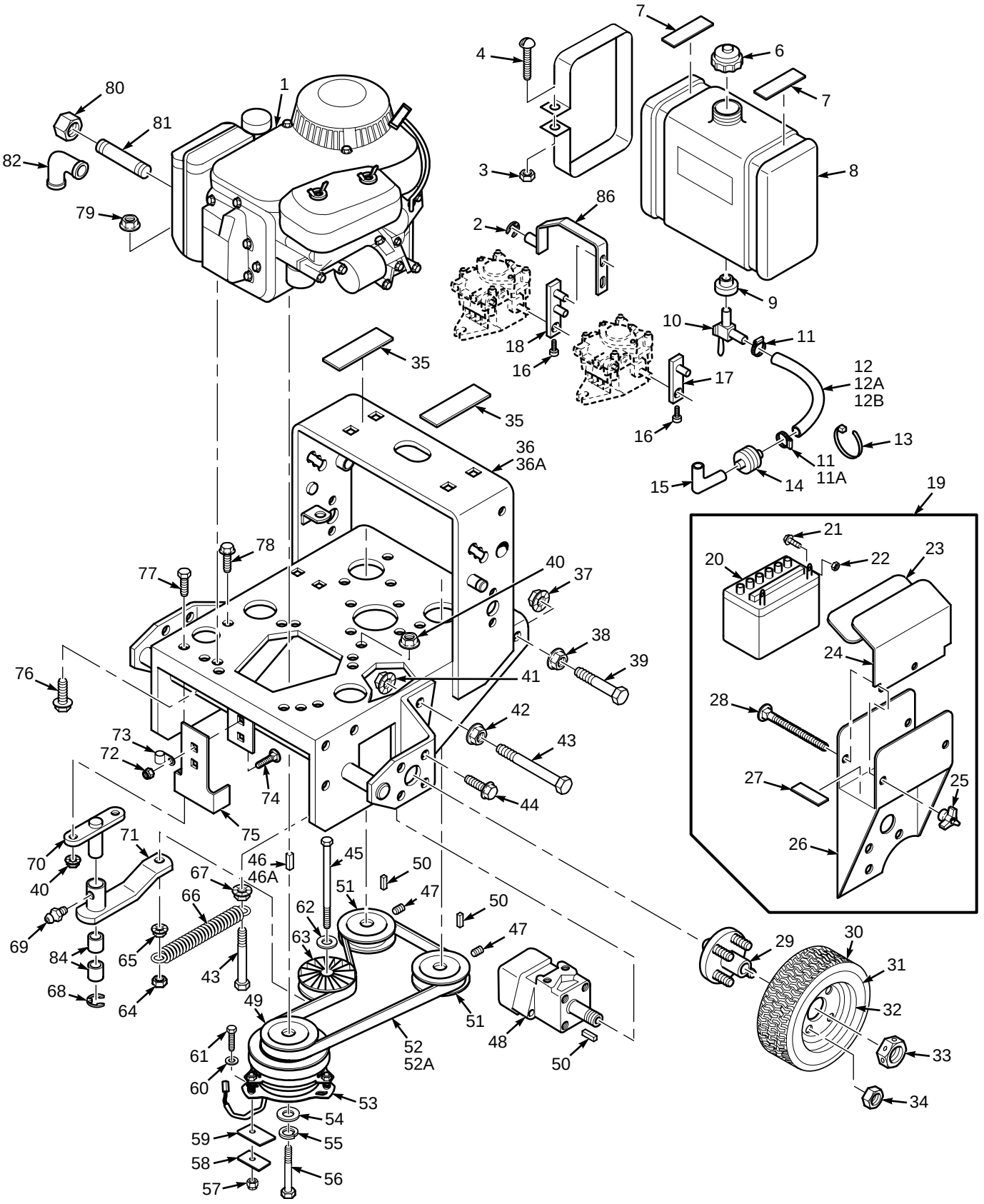
48, 52, 61, & 72" CUTTER DECKS

Ref. No.	Part No.	Description	48	52	61	72
1	46605	Cutter Deck (Includes decals)	x			
1	46606	Cutter Deck (Includes decals)		x		
1	46607	Cutter Deck (Includes decals)			x	
1	46608	Cutter Deck (Includes decals)				x
2	46400	Spindle Assembly	x	x	x	x
3	04050-04	Retaining Ring, 1" External Inverted	x	x	x	x
4	48924	Pulley	x	x	x	x
5	48668	Tapered Bearing	x	x	x	x
6	41008	Spindle Housing	x	x	x	x
7	48114-02	Grease Fitting Str. 5/16 Serrated	x	x	x	x
8	45391	Spindle Shaft, Tapered Bearing	x	x	x	x
9	45037	Idler Pivot	x	x	x	x
10	04063-08	Key, 1/4 x 1/4 x 2"	x	x	x	x
11	43278	Spacer, Cutter Blade - Small	x	x	x	x
12	04017-18	Capscrew 5/16-18 x 1-1/4"	x	x	x	x
13	48807	Spring, Cutter Deck	x	x	x	x
14	04019-03	Serrated Flange Nut, 5/16-18	x	x	x	x
15	48110	Cutter Blade 16-1/2"	x			
15	48108	Cutter Blade 18"		x		
15	48111	Cutter Blade 21"			x	
15	48112	Cutter Blade 24"				x
15A	48184	Cutter Blade 16-1/2 Hi Lift	x			
15A	48185	Cutter Blade 18 Hi Lift		x		
15A	48304	Cutter Blade 21 Hi Lift			x	
16	04040-10	Flatwasher, 5/8" W	x	x	x	x
17	04001-41	Hex Head Bolt, 5/8-11 x 9-1/2"	x	x	x	x
18	46079	Caster Assembly, (incl. 19-28)	x	x	x	x
19	04066-01	Quick Pin	x	x	x	x
20	43037-01	Spacer, Caster Yoke, 1/2" thick	x	x	x	x
21	48100-01	Bronze Bearing	x	x	x	x
22	48114-04	Grease Fitting	x	x	x	x
23	46082	Support Assembly, (incl. 21-23)	x	x	x	x
24	45006	Caster Yoke	x	x	x	x
25	43022	Sleeve, Caster Wheel Bearing	x	x	x	x
26	04001-37	Hex Hd Bolt, 1/2-13 x 5-1/2"	x	x	x	x
27	04021-07	Elastic Stop Nut, 1/2-13	x	x	x	x
28	48307	Wheel Assy. (incl. 29-34,81)	x	x	x	x
29	48307-02	Tire only, Caster Wheel	x	x	x	x
NS	48006-03	Inner Tube only, Caster Wheel	x	x	x	x
30	48307-04	Rim Pair, Caster Wheel	x	x	x	x
31	48006-07	Bearing Retainer, Caster Wheel	x	x	x	x
32	48006-06	Roller Bearing, Caster Wheel	x	x	x	x
33	48114-03	Grease Fitting 45 deg., 1/4-28	x	x	x	x
34	48006-05	Hub Assembly, (incl. bolts)	x	x	x	x
35	04017-16	Capscrew, 5/16-18 x 3/4"	x	x	x	x
36	45029	Discharge Chute			x	x
36A	45100	Discharge Chute	x	x		
37	*	Hex Nut, 5/16-18 Elastic Stop	x	x	x	x
38	*	Hex Hd. Bolt, 5/16-18 x 1"	x	x	x	x
39	46086	Belt Cover (Includes decals)	x			
39	46595	Belt Cover (Includes decals)		x		
39	46597	Belt Cover (Includes decals)			x	
39	46609	Belt Cover (Includes decals)				x

Ref. No.	Part No.	Description	48	52	61	72
40	04041-07	Flat Washer, 3/8" Special	x	x	x	x
41	04029-03	Wing Nut, 3/8-16	x	x	x	x
42	48924	Pulley	x	x		
42A	48753	Pulley			x	
42B	48967	Pulley				x
43	48141	Tapered Hub	x	x	x	x
44	*	Hex Head Bolt, 1/4-20 x 3/4"	x	x	x	x
45	*	Hex Nut, 5/8-11	x	x	x	x
46	48923	Pulley, Double	x	x		
46A	48940	Pulley, Double			x	
46B	48966	Pulley, Double				x
47	48087	Belt, RH Blade Drive	x			
47	48285	Belt, RH Blade Drive		x		
47	48265	Belt, RH Blade Drive			x	
47	48295	Belt, RH Blade Drive				x
48	48089	Belt, Blade Drive	x			
48	48286	Belt, Blade Drive		x		
48	48088	Belt, Blade Drive			x	
48	48296	Belt, Blade Drive				x
49	*	Hex Nut, 3/8-16, Centerlock	x	x	x	x
50	04019-04	Nut, 3/8-16, Serrated Flange	x	x	x	x
51	04021-09	Elastic Stop Nut, 3/8-16	x	x	x	x
52	04004-02	Support, Belt Cover	x	x	x	x
53	04017-15	Capscrew, 5/16-18 x 1/2" Serrated Flange Hex Head	x	x	x	x
54	04017-42	Capscrew,7/16-14 x 1"Serrated Flange Hex Head	x	x	x	x
55	04019-05	Nut, 7/16-14 Serrated Flange	x	x	x	x
56	04041-08	Flat Washer 3/4" Special	x	x	x	x
56A	04041-08S	Flat Washer 3/4" Special	x	x	x	x
57	44101	J-Hook	x	x	x	x
58	48181	Idler Pulley, “V” Groove	x	x	x	x
59	04050-02	Retaining Ring, 3/4" Ext.”E”	x	x	x	x
60	46081	Idler Arm Assy. (Incl. 22 & 61)	x	x	x	x
61	48100-05	Bronze Bearing	x	x	x	x
62	43028	J-Rod, Idler Pulley	x	x	x	x
63	43077	Spacer, J-Rod	x	x	x	x
64	04041-12	Washer, 3/8 x 1-1/2 x 16 ga.	x	x	x	x
65	*	Hex Head Bolt, 3/8-16 x 2-1/4"	x	x	x	x
66	48681	Seal	x	x	x	x
67	46593	Idler Arm Assy (Includes 22&77)	x	x	x	x
68	43277	Spacer, J-Rod	x	x	x	x
69	48677	Relief Fitting, Cutter Spindle	x	x	x	x
70	43218	Sleeve, Cutter Spindle	x	x	x	x
71	43217	Spindle Bushing	x	x	x	x
72	43201	Spacer, Large	x	x	x	x
73	*	Roll Pin, 1/8" x 1/2"	x	x	x	x
74	*	Hex Hd Bolt, 3/8-16 x 3-1/2"	x	x	x	x
75	45329	Idler Pivot	x	x	x	x
76	48269	Idler Pulley, Belt Clutch	x	x	x	x
77	48100-02	Bronze Bearing	x	x	x	x
78	04050-05	Retaining Ring	x	x	x	x
79	48038	Guide Roller	x	x	x	x
80	45046	Roller Shaft	x	x	x	x

* Common hardware which should be purchased locally. All bolt Grade 5 plated, all other fasteners zinc plated.

ENGINE DECK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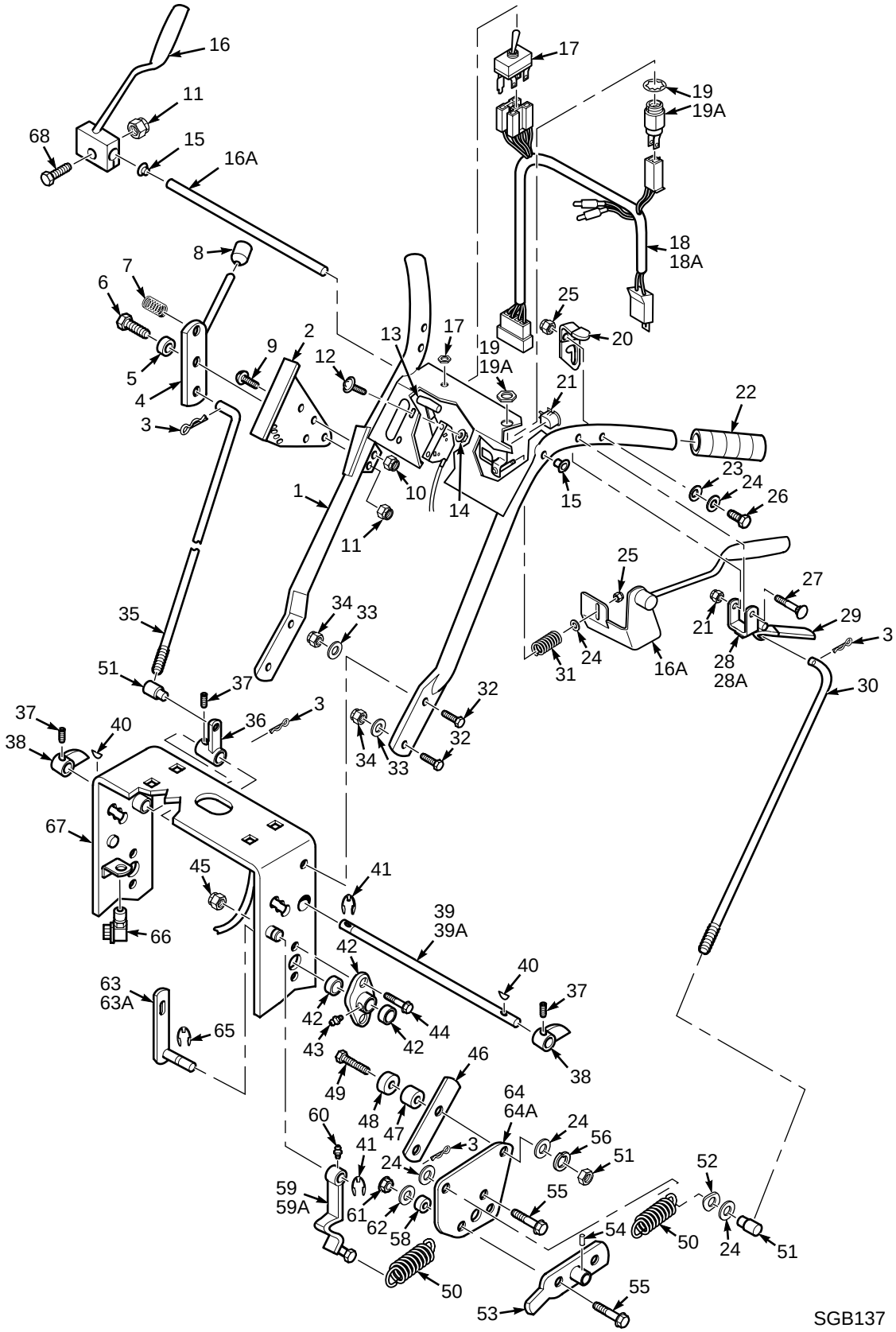
ENGINE DECK

Ref. No.	Part Number	Description	KA 13	KA 14	KH 14	BV 16	BV 18	CVE 20
1	48841	Engine, 13HP Kawasaki	x					
1	48842	Engine, 14HP Kawasaki		x				
1	48844	Engine, 14HP Kohler Engine,			x			
1	48927	Engine, 16HP Briggs Vanguard				x		
1	48864	Engine, 18HP Briggs Vanguard					x	
1	48971	Engine, 20 CVE						x
2	04050-01	Retaining Ring, 1/2"	x	x	x	x	x	x
3	*	Hex Nut, 1/4-20	x	x	x	x	x	x
4	*	Machine Screw, 1/4-20 x 2 Round Hd. Slotted	x	x	x	x	x	x
5	421239	Strap, Fuel Tank	x	x	x	x	x	x
6	48311	Cap, Fuel Tank	x	x	x	x	x	x
7	48292	Pad, Rubber - Fuel Tank, Upper	x	x	x	x	x	x
8	46174	Fuel Tank Assembly (Includes items 9, 10)	x	x	x	x	x	x
9	48309	Bushing	x	x	x	x	x	x
10	48308	Valve, Fuel Shut-off	x	x	x	x	x	x
11	48059-01	Clamp, Fuel Hose	x	x	x	x		
11A	48059-02	Clamp, Fuel Hose (KA Only)	x	x				
12	48058-05	Fuel Hose, 1/4 ID x 20		x		x	x	
12A	48058-10	Fuel Hose (14KH Only)			x			
12B	48058-03	Fuel Hose (20CVE Only)						x
13	48028-01	Cable Tie	x	x	x	x	x	x
14	48057-02	Fuel Filter	x	x				
15	48179-01	Fuel Hose,short 7/32 ID x3-1/2 (KA only)	x	x				
16	04015-06	Capscrew, #10-32 x 1 Soc. Hd.	x	x	x	x	x	
17	46323	Lever Assy, Pump Crtl.	x	x	x	x	x	x
18	46324	Lever Assy. Pump Control-RH	x	x	x	x	x	x
19	46439	Battery Box Kit (20 CVE Only)						x
20	48015	Battery						x
21	*	Bolt, 1/4-20 x 1 (In Hdwr Bag 481010)				x		x
22	*	Nut, 1/4-20, HH						x
23	48099	Pad						x
24	42392	Battery Cover						x
25	04029-01	Wing Nut, 1/4-20						x
26	45384	Battery Support						x
27	48661	Pad, Rubber						x
28	*	Bolt, 1/4-20 x 6, Carriage Hd.						x
29	48468-05	Wheel Hub (Includes item 34)		x	x	x	x	x
30	48468	Wheel Assembly (Includes 31, 32, 29, 34)	x	x	x	x	x	x
31	48004-02	Tire, 16 x 6.50, 4 ply		x	x	x	x	x
32	48004-04	Rim Assembly		x	x	x	x	x
33	48679	Pack Nut, 3/4-28 UNEF		x	x	x	x	x
34	48004-06	Bolt and Nut, Lug		x	x	x	x	x
35	48205	Pad,Rubber-Fuel Tank, Lower						
36	45539	Engine Deck (16" Wide)		x	x			
36A	45540	Engine Deck (20" Wide)		x	x	x	x	x
37	04019-03	5/16-18 Serr. Fl. Nut		x	x	x	x	x
38	*	5/16-18, Nut, HH	x	x	x	x	x	

Ref. No.	Part Number	Description	KA 13	KA 14	KH 14	BV 16	BV 18	CVE 20
39	*	Bolt, Hex Hd., 5/16-18 x 1-1/2	x	x	x	x	x	x
40	*	5/16-18 Serr. Fl. Hex Nut	x	x	x	x	x	x
41	*	3/8-16 Serr. Fl. Nut	x	x	x	x	x	x
42	*	3/8-16 Serr. Fl. Nut	x	x	x	x	x	x
43	*	Bolt, Hex Hd., 3/8-16 x 2-3/4	x	x	x	x	x	x
44	04017-27	3/8-16 x 1 Serr. Fl. Capscrew	x	x	x	x	x	x
45	*	Bolt, Hex Hd., 3/8-16 x 2-1/4		x	x	x	x	x
46	04063-01	Key, 5.0 x 5.0 x 25mm (For KA/20CVE Only)						x
46A	04063-20	Key, 5.0 x 5.0 x 25mm (For KH/BV Only)			x	x	x	
47	04012-04	Setscrew, 5/16-18 x 3/8 Socket Hd.	x	x	x	x	x	x
48	48437	Motor, White RS	x	x	x	x	x	x
49	48988	Pulley, Pump Drive -Engine	x	x	x	x	x	x
50	04063-15	Key, 3/16 x 3/16 x .75	x	x	x	x	x	x
51	48586	Pulley, Pump Shaft	x	x	x	x	x	x
52	48553	Belt, Pump Drive (For 16")	x	x	x			
52A	48587	Belt,PumpDrive (For 20")				x	x	x
53	48786	Electric Clutch	x	x	x	x	x	x
54	04041-18	Flatwasher, 7/16	x	x	x	x	x	x
55	*	Lockwasher, 7/16	x	x	x	x	x	x
56	*	Bolt, Hex Head 7/16-20 x 3	x	x	x	x	x	x
57	*	Hex Locknut, Elastic Stop 5/16-18	x	x	x	x	x	x
58	421215	Backing Plate, Clutch Stop	x	x	x	x	x	x
59	48814	Rubber Pad, Clutch Stop	x	x	x	x	x	x
60	*	Flatwasher, 5/16	x	x	x	x	x	x
61	*	Bolt, Hex Head 5/16-18 x 1-1/4	x	x	x	x	x	x
62	*	Flatwasher, 3/8 (406 x .812 x .065)	x	x	x	x	x	x
63	48473	Pulley, Idler - Pump Drive	x	x	x	x	x	x
64	*	Center Locknut, 3/8-16	x	x	x	x	x	x
65	04019-04	Nut, 3/8-16 Serr. Fl.	x	x	x	x	x	x
66	48051	Spring, Pump Belt Idler	x	x	x	x	x	x
67	04019-03	Nut, Serr. Fl.	x	x	x	x	x	x
68	04050-02	Retaining Ring, 3/4 Ext. - "E"	x	x	x	x	x	x
69	48114-04	Grease Fitting	x	x	x	x	x	x
70	45212	Pivot, Idler Arm	x	x	x	x	x	x
71	46467	Idler Arm	x	x	x	x	x	x
72	04021-10	Nut, Elastic Stop, 3/16-18	x	x	x	x	x	x
73	48030-09	Clamp	x	x	x	x	x	x
74	04003-04	Carrage bolt, 5/16-18 x 1	x	x	x	x	x	x
75	421370	Clutch bracket	x	x	x	x	x	x
76	04017-19	Capscrew				x	x	x
77	*	Bolt, Hex Hd., 5/16-18 x 1	x	x	x	x	x	x
78	04017-17	Bolt, 5/16-18 x 1 Serr. Fl.	x	x	x	x	x	x
79	04019-03	Hex Nut, Serr. Fl.						
80	48257	Pipe Cap				x	x	
81	48431	Pipe, 4.75" Nipple (20 HP CVE)				x	x	
82	48402-03	Elbow, Pipe (BV16/18 Only)				x	x	
83	45283	Shaft Weldment, RH Pump Control		x	x	x	x	x
84	48100-05	Bushings, 3/4 sintered		x	x	x	x	x

* Common hardware which should be purchased locally. All bolts Grade 5 plated, all other fasteners zinc plated.

HANDLE ASSEMBLY

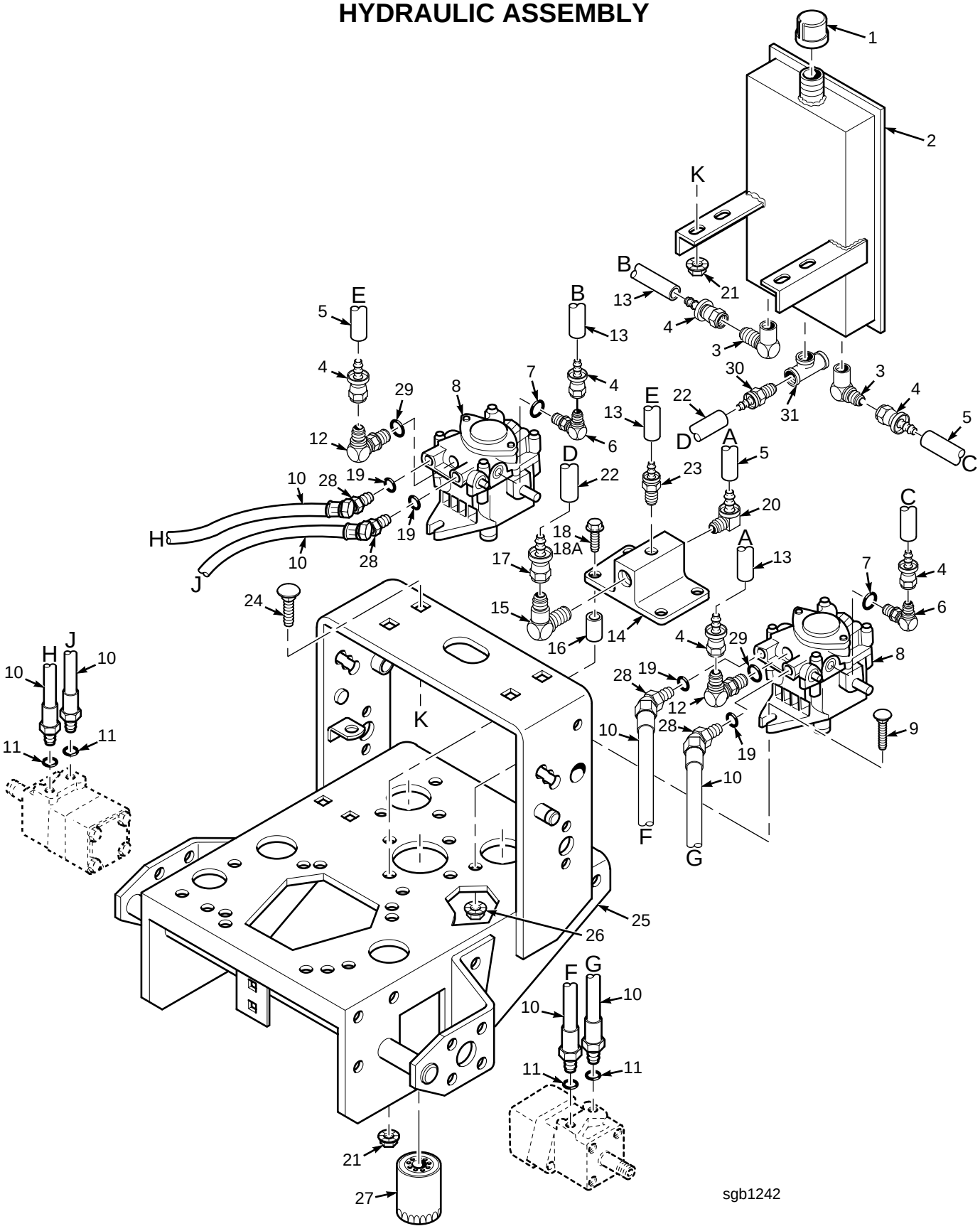


HANDLE ASSEMBLY

Ref. No.	Part No.	Description	KA 13	KA 14	KH 14	BV 16	BV 18	CVE 20
1	45543	Upper Handle Assy, (16" Deck)	x	x	x	x	x	x
1	45544	Upper Handle Assy, (20" Deck)						
2	42675	Quadrant, Speed Control	x	x	x	x	x	x
3	04062-02	Hair Pin, Small	x	x	x	x	x	x
4	45282	Lever, Speed Adj.	x	x	x	x	x	x
5	43086	Bushing, Speed Adj. Lever	x	x	x	x	x	x
6	04001-20	Bolt, 5/16-18 x 1-1/2, HH.	x	x	x	x	x	x
7	48493-01	Ball Plunger	x	x	x	x	x	x
8	48092	Knob, Speed Adj.	x	x	x	x	x	x
9	04014-01	Capscrew, 1/4-20 x 3/4 FHHS	x	x	x	x	x	x
10	04021-08	Nut, 1/4-20, Elastic Stop	x	x	x	x	x	x
11	04021-10	Nut, 5/16-18, Elastic Stop	x	x	x	x	x	x
12	04010-01	Screw, #10-32 x 1/2 PW HD	x	x	x	x	x	x
13	48946	Throttle Control	x	x	x	x	x	x
14	04019-01	Nut, #10-32, Serr. Fl. HH	x	x	x	x	x	x
15	48312	Bushing	x	x	x	x	x	x
16	45572	Handle, Oper Pres., RH	x	x	x	x	x	x
16A	45571	Handle, Oper Pres., LH (20"deck)			x	x	x	
16A	45573	Handle, Oper Pres., LH (16"deck)	x	x				
17	48787	Switch, Elet Clutch Engagement (Includes Nut)	x	x	x	x		
18	48949	Wire Harness, Manual Start Models	x	x	x	x	x	
18A	48978	Wire Harness, Electric Start Models						
19	48017	Keyswitch,Manual Start Models (Includes Washer & Nut)	x	x	x	x	x	
19A	48798	Keyswitch, Electric Start Models (Includes Washer & Nut)						x
20	42257-01	Neutral Latch - RH	x	x		x	x	
20A	42257-02	Neutral Latch - LH	x	x		x	x	
21	48717	Switch, Neutral Interlock	x	x	x		x	x
22	48159	Grip	x	x	x		x	x
23	04032-01	Washer, Curved Spring	x	x	x		x	x
24	*	Flat Washer, 5/16	x	x	x			x
25	04021-10	Nut, 5/16-18, Locknut, Elastic	x	x	x		x	x
26	04001-17	Bolt, 5/16-18 x 2, HH	x	x	x		x	x
27	04003-10	Bolt, 5/16-18 x 2 1/2, Carriage	x	x	x		x	x
28	45297	Lever, Steering Control, RH	x	x	x		x	x
28A	45281	Lever, Steering Control, LH	x	x	x		x	x
29	48492	Grip, Steering Control Lever	x	x	x		x	x
30	44050	Rod, Steering Control	x	x	x		x	x
31	48951	Spring, Handle Return	x	x	x		x	x
32	*	Bolt, 3/8-16x 1, HH	x	x		x	x	
33	*	Flat Washer, 3/8	x	x	x		x	x
34	*	Nut, 3/8-16, Serr. Fl. HH	x	x	x		x	x
35	44051	Rod, Speed Control		x	x		x	x
36	45279	Bellcrank, Speed Control (Includes Setscrew)	x	x	x		x	x
37	04012-02	Setscrew, 1/4-28 x1/4 H. Sock., Knurled Cup Point	x	x	x		x	x
38	45296	Cam, Speed Control (Includes Setscrew)	x	x	x	x	x	x
39	43166	Jackshaft, Speed Control (For 16" deck)	x	x	x	x		
39A	43155	Jackshaft, Speed Control (For 20' deck)	x	x	x	x	x	x
40	04063-13	Key, 1/8 x 1/2, Woodruff #3	x	x	x	x	x	x
41	*	Ring, Retaining 5/8, Tru Arc	x	x	x	x	x	x
42	45299	Pivot, Pump Control Shaft (Includes Bushings/Grease Zerk)	x	x	x	x	x	x
43	48114-04	Zerk, Grease, 1/4-28, Self Tap.	x	x	x	x		
44	04017-17	Capscrew, 5/16-18 x 1, Serr. Fl. HH	x	x	x	x	x	x
45	04019-03	Nut, 5/16-18, Elastic	x	x	x	x	x	x
46	45279	Bar, Speed Control x	x	x	x			
47	43161	Spacer, Speed Control Bearing	x	x	x	x	x	x
48	48409	Bearing, Speed Control Bellcrank	x	x	x	x	x	x
49	04001-69	Bolt, 5/16-18 x 1 3/4, Full Thread, HH	x	x	x	x	x	x
50	46335	Spring Return	x	x	x	x	x	x
51	43157	Swivel Joint, Steering Rod	x	x	x	x	x	x
52	04032-1	Wave Washer	x	x	x	x	x	x
53	45292	Handle, Neutral Adj.	x	x	x	x	x	x
54	04065-05	Drive Pin, 5/16 x 1 1/4 Type U	x	x	x	x	x	x
55	04017-16	Capscrew, 5/16-18 x 3/4 Serr. Fl. HH	x	x	x	x	x	x
56	*	Lockwasher, 5/16	x	x	x	x	x	x
57	*	Nut, 5/16-18, HH	x	x	x	x	x	x
58	48224	Bearings, Ball, Neutral Return	x	x	x	x	x	x
59	46337	Cam, Neutral (RH) (Includes Grease Zerk)	x	x	x	x	x	x
59A	46338	Cam Neutral (LH) (Includes Grease Zerk)	x	x	x	x	x	x
60	*	Grease Fitting, 1/4-2 BUNF-2A	x	x	x	x	x	x
61	*	Nut, 3/8-16, Serr. Fl.	x	x	x	x	x	x
62	*	Flat Washer, 3/8	x	x	x	x	x	x
63	45295	Shaft, Pump Control, (LH)	x	x	x	x	x	x
63A	45283	Shaft, Pump Control, (RH)	x	x	x	x	x	x
64	45271	Bellcrank, Pump Control (LH)	x	x	x	x	x	x
64A	45272	Bellcrank, Pump Control (RG)	x	x	x	x	x	x
65	*	Retaining Ring, 1/2 Ext.	x	x	x	x	x	x
66	48026	Switch, Neutral Start	x	x	x	x	x	x
67	By Ref.	Deck, Engine	x	x	x	x	x	x
68	*	Bolt, 5/16-18 x 1 1/4, HH	x	x	x	x	x	x
69	48780	Choke Control	x	x	x			

* Common hardware which should be purchased locally. All bolts Grade 5 plated, all other fasteners zinc plated.

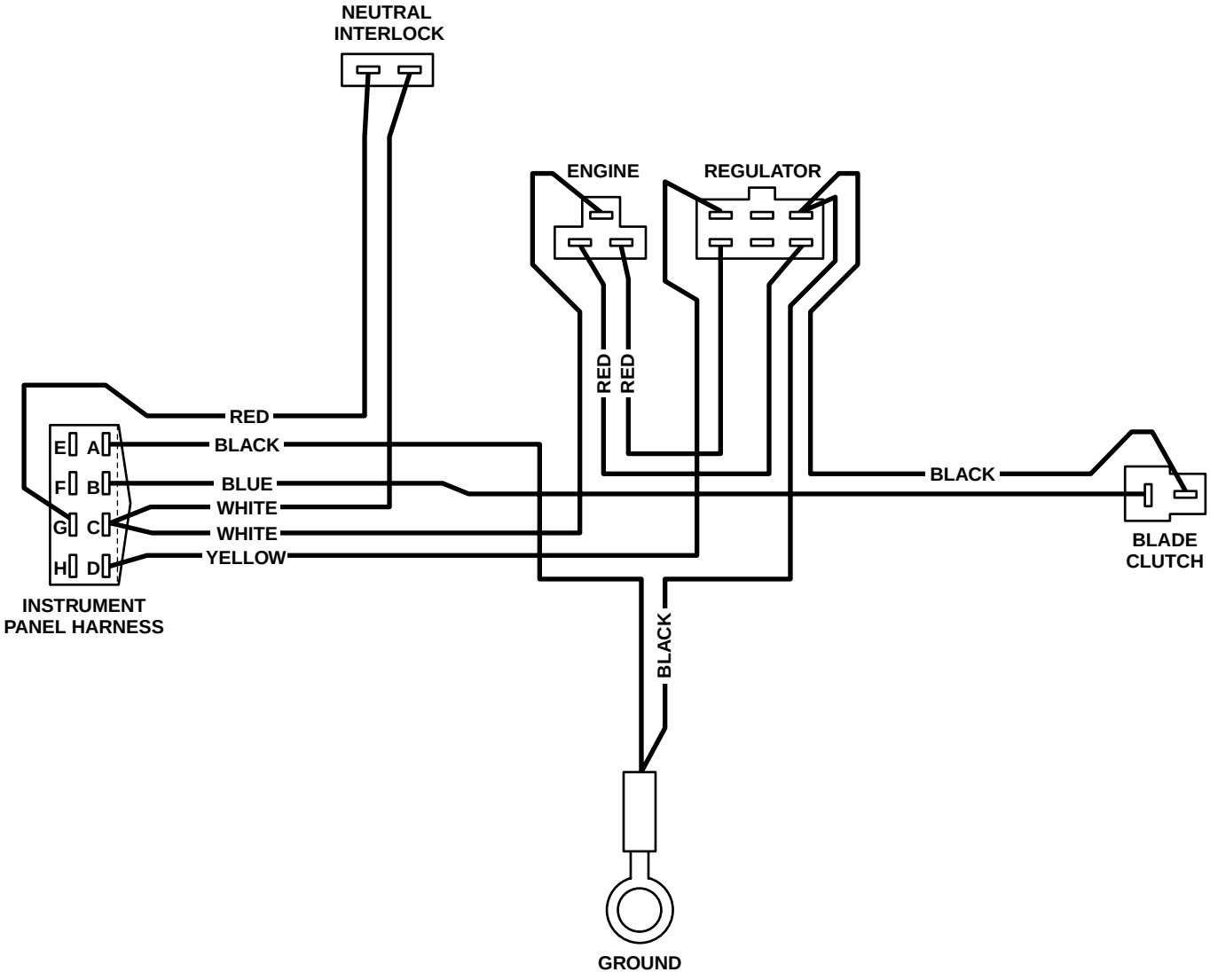
HYDRAULIC ASSEMBLY



HYDRAULIC ASSEMBLY

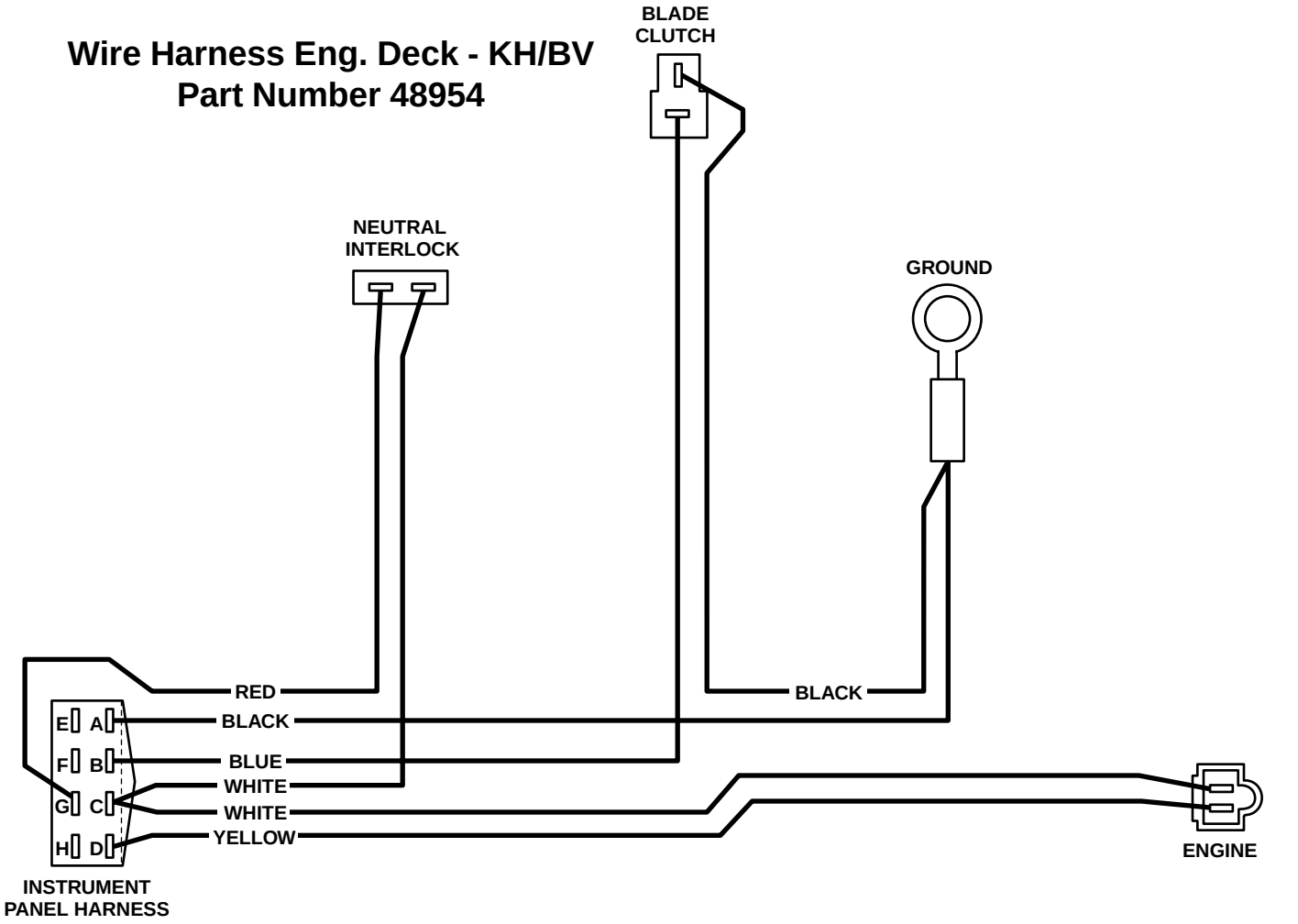
Ref. No.	Part Number	Description	13KA	14KA	14KH	16BV	18BV	20CVE
1	48535	Cap, Oil Reservoir	x	x	x	x	x	x
2	46430	Oil Reservoir	x	x	x	x	x	x
3	48484-01	Elbow, 90 deg. Female 1/4 NPT to 1/4 JIC Male	x	x	x	x	x	x
4	43853-02	Coupling, 7/16-20 SAE Flare Swivel to 1/4" Hose Push On 1/4	x	x	x	x	x	x
5	48482-05	Hose, 1/4" ID, 12" Long	x	x	x	x	x	x
6	48350-04	Elbow, 90 deg. 7/16-20 JIC to 9/16-18 "O" Ring	x	x	x	x	x	x
7	48603-06	O-Ring						
8	48551	Pump, Sunstrand BDP-10L117	x	x	x	x	x	x
9	*	Bolt, Carriage, 3/8-16 x 1-1/4	x	x	x	x	x	x
10	48991	Hose,Hose Only Pump to Motor (Hose Only For Elbow See.....)	x	x	x			x
11	48603-04	O-Ring						
12	48350-03	Elbow, 90 deg. 7/16-20 UNC to 7/16-20 O-Ring	x	x	x	x	x	x
13	48482-04	Hose, 1/4" ID - 10" Long	x	x	x	x	x	x
14	48471	Oil Filter Base (Includes item 27)	x	x	x	x	x	x
15	48489-02	Elbow, 90 deg. Male 3/4-16 JIC to 1/2" Male NPT	x	x	x	x	x	x
16	43096	Spacer, Oil Filter Base (20" Deck)				x	x	x
17	48353-01	Coupling, 3/4-16 SAE Flare Swivel to 1/2" Hose Push On	x	x	x	x	x	x
18	*	Bolt, Hex Hd., 5/16-18 x 1 (For 16")	x	x	x			
18	*	Bolt, Hex Hd., 5/16-18 x 2-1/4 (For 20")	x	x	x	x	x	x
19	48603-20	O-Ring						
20	48486-01	Elbow, 90 deg. Male 1/4 NPT to 1/4 Hose Push On	x	x	x	x	x	x
21	*	Nut, 5/16-18 Serr. Fl. HH	x	x	x	x	x	x
22	48351-05	Hose, 1/2" ID, 12" Long	x	x	x	x	x	x
23	48352-02	Coupling, 1/4 straight Male NPT to 1/4 Hose Push On	x	x	x	x	x	x
24	*	Bolt, 5/16-18 x 3/4, Carraige	x	x	x	x	x	x
25	45339	Engine Deck (16" Wide)	x	x	x	x	x	x
25	45270	Engine Deck (20" Wide)				x	x	x
26	*	Nut, 3/8-16, Serr.Fl. HH	x	x	x	x	x	x
27	48462-01	Oil Filter	x	x	x	x	x	x
28	48485-01	Elbow, 45 deg.	x	x	x	x	x	x
29	48603-03	O-Ring	x	x	x	x	x	x
30	48352-03	Coupling, 3/8 Straight Male NPT to 1/2 Push-on	x	x	x	x	x	x
31	48491	T-Fitting, 3/8 NPT	x	x	x	x	x	x

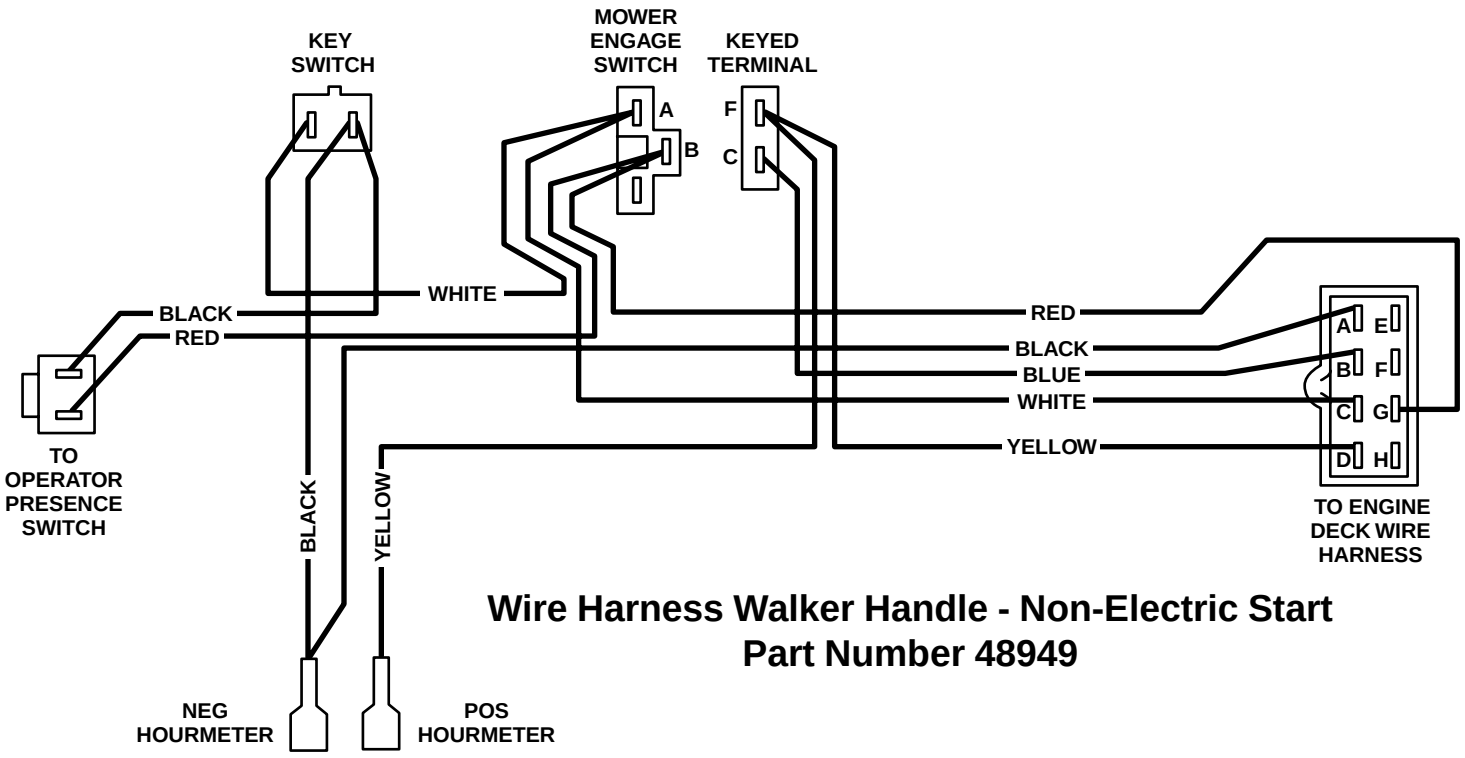
* Common hardware which should be purchased locally. All bolts Grade 5 plated, all other fasteners zinc plated.



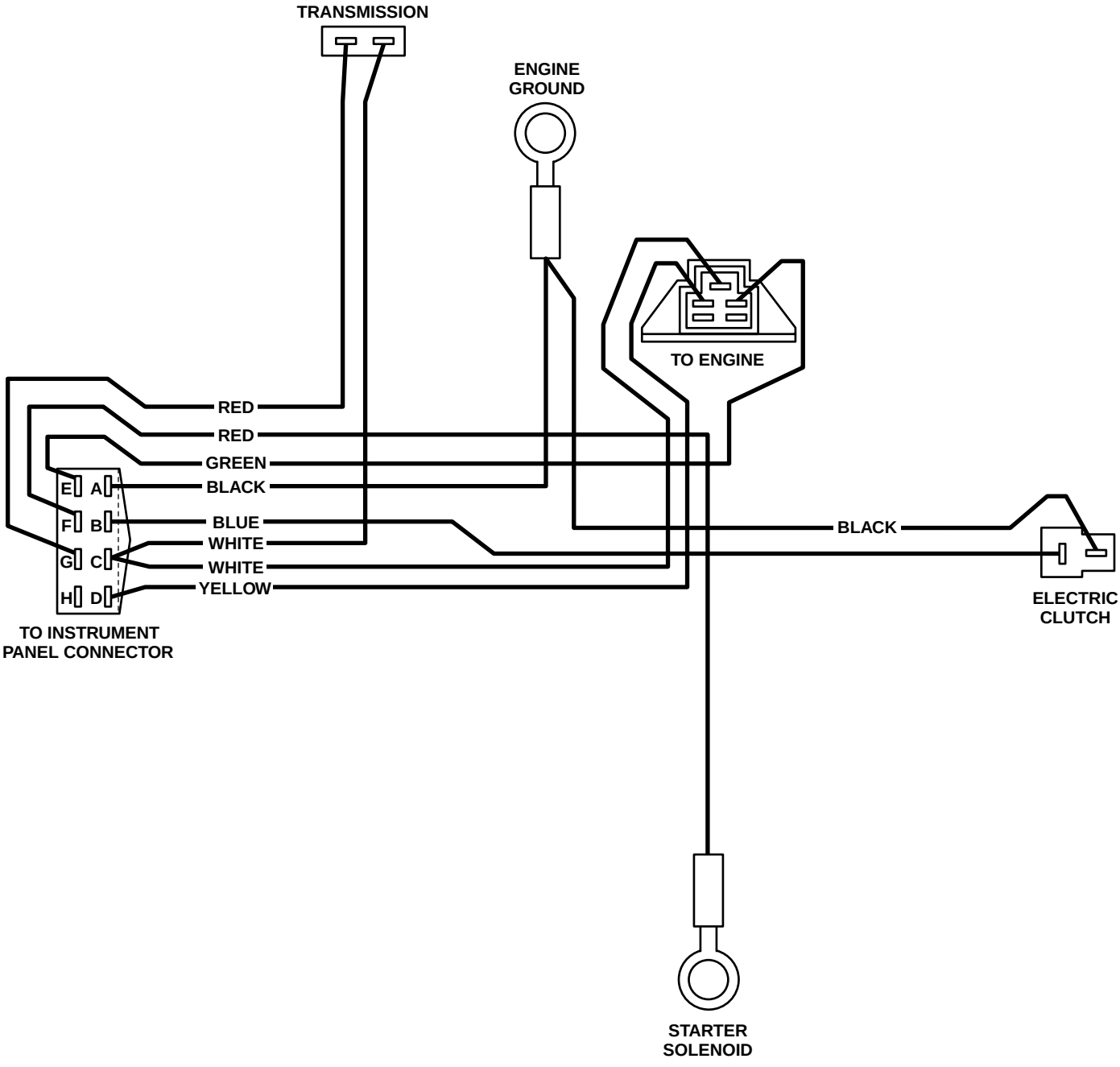
Wire Harness Eng. Deck - KA
Part Number 48955

Wire Harness Eng. Deck - KH/BV
Part Number 48954

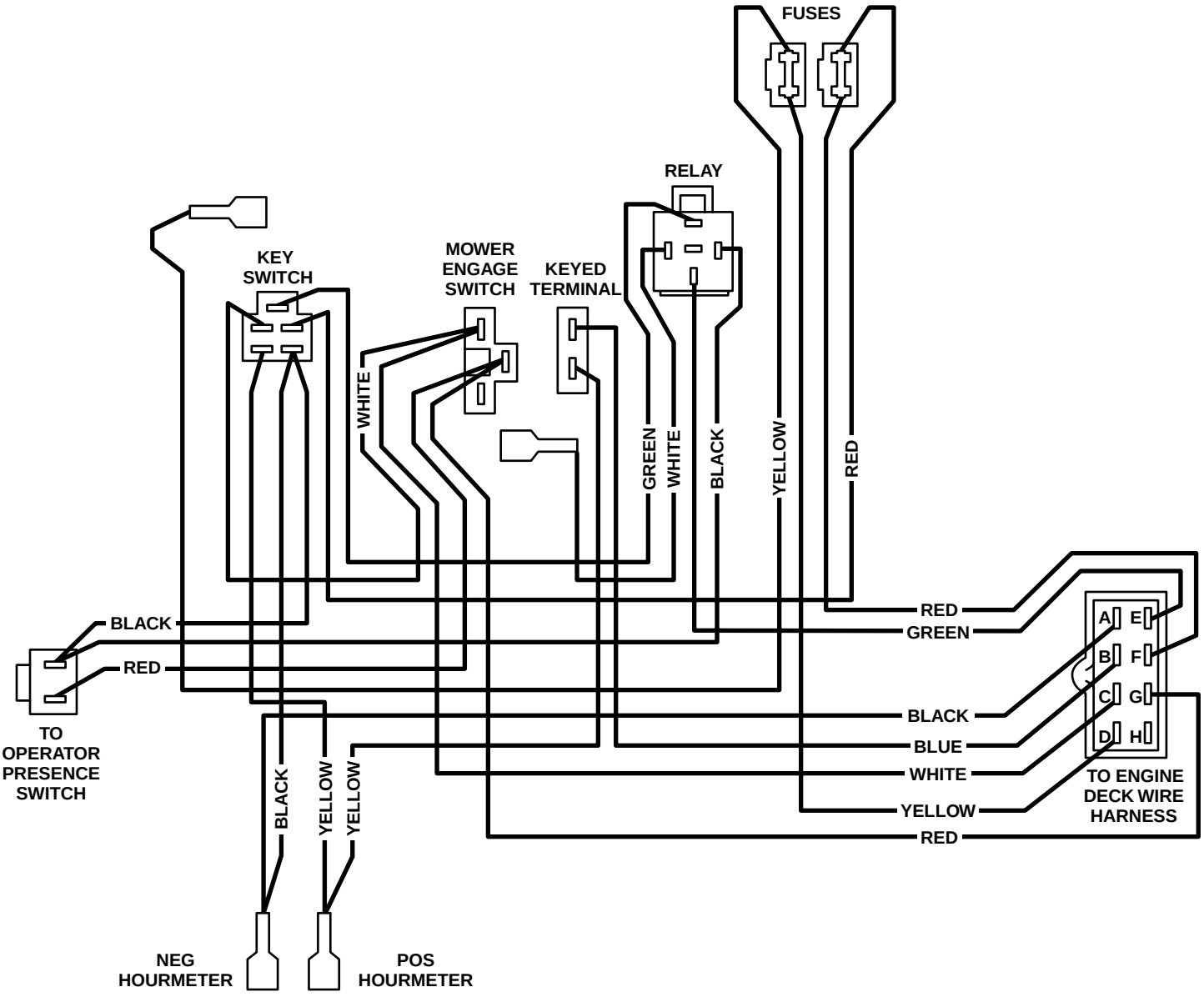




Wire Harness Walker Handle - Non-Electric Start
Part Number 48949



Wire Harness Eng. Deck - KH/CV
Part Number 48976



Wire Harness Walker Handle - Electric Start
Part Number 48978

REPLACEMENT DECALS & INFORMATION

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WARNING
ROTATING BLADES AND BELTS
* KEEP HANDS, FEET & CLOTHING CLEAR
* KEEP ALL GUARDS IN PLACE
* SHUT OFF ENGINE & DISENGAGE BLADE CLUTCH BEFORE SERVICING
* CLEAR AREA OF DEBRIS BEFORE MOWING
* USE CAUTION IN DIRECTING DISCHARGE
* KEEP BYSTANDERS, CHILDREN & PETS AWAY
* READ INSTRUCTION MANUAL BEFORE OPERATING
DO NOT OPERATE WITHOUT DISCHARGE CHUTE, MULCHING KIT, OR ENTIRE GRASS CATCHER INSTALLED

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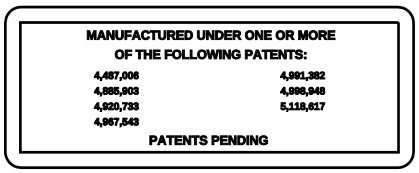

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Ref. No.	Part Number	Description	Ref. No.	Part Number	Description
1	48072	Decal, Heavy Duty Commercial	10	48281	Decal, Warning
2	48314	Decal, Scag Logo	11	48712	Decal, Patents
3	48071	Decal, Spinning Blade	12	48947	Decal, Instrument Panel
4	48315	Decal, 32	13	48948	Decal, Instrument Panel
5	48316	Decal, 36	14	48999	Decal, Instrument Panel
6	48318	Decal, 48	15	48979	Decal, Instrument Panel
7	48073	Decal, 52	16	48712	Decal, Belt Cover
8	48656	Decal, 61	17	48873	Decal, Belt Tension
9	48895	Decal, 72	18	48404	Decal, Made in USA

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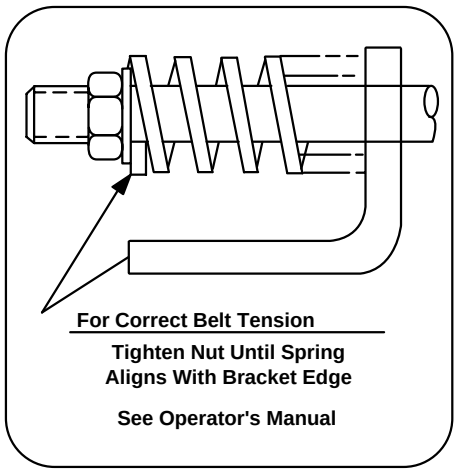

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WARNING

If incorrectly used, this machine can cause severe injury. Those who use and maintain the machine should be trained in its proper use, warned of its dangers, and should read the entire manual before attempting to set up, operate, adjust or service the machine.

LIMITED WARRANTY-COMMERCIAL EQUIPMENT

Any part of the Scag commercial mower manufactured by Scag Power Equipment and found, in the reasonable judgment of Scag, to be defective in materials or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor. This warranty is limited to the original purchaser and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.

This warranty is limited to the following specified periods from the date of the original retail purchase for defects in materials or workmanship:

* Wear items including drive belts, blades, hoses and tires are warranted for 90 days.
* Batteries are covered for 90 days.
* Frame, deck, and structural components including oil reservoir, fittings, and oil cooler are warranted for 1 year.
* Engines and electric starters are covered by the manufacturer's warranty period.
* Drive system components are warranted for 1 year by the component manufacturer, in conjunction with Scag Power Equipment. (Excluding fittings, hoses, cooling system, oil reservoir, drive belts).
* Electric clutch components are warranted for 1 year.

Any Scag product used for rental purposes is covered by a 90 day warranty.

The Scag mower, including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it to the owner after repair will be paid for by the owner. Scag's responsibility is limited to making the required repairs and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower.

This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual. The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Operator's Manual and Assembly Manual. The warranty does not cover any mower that has been altered or modified changing performance or durability. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability.

Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured.

All other implied warranties are limited in duration to the one (1) year warranty period or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate one year or ninety day warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages,so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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